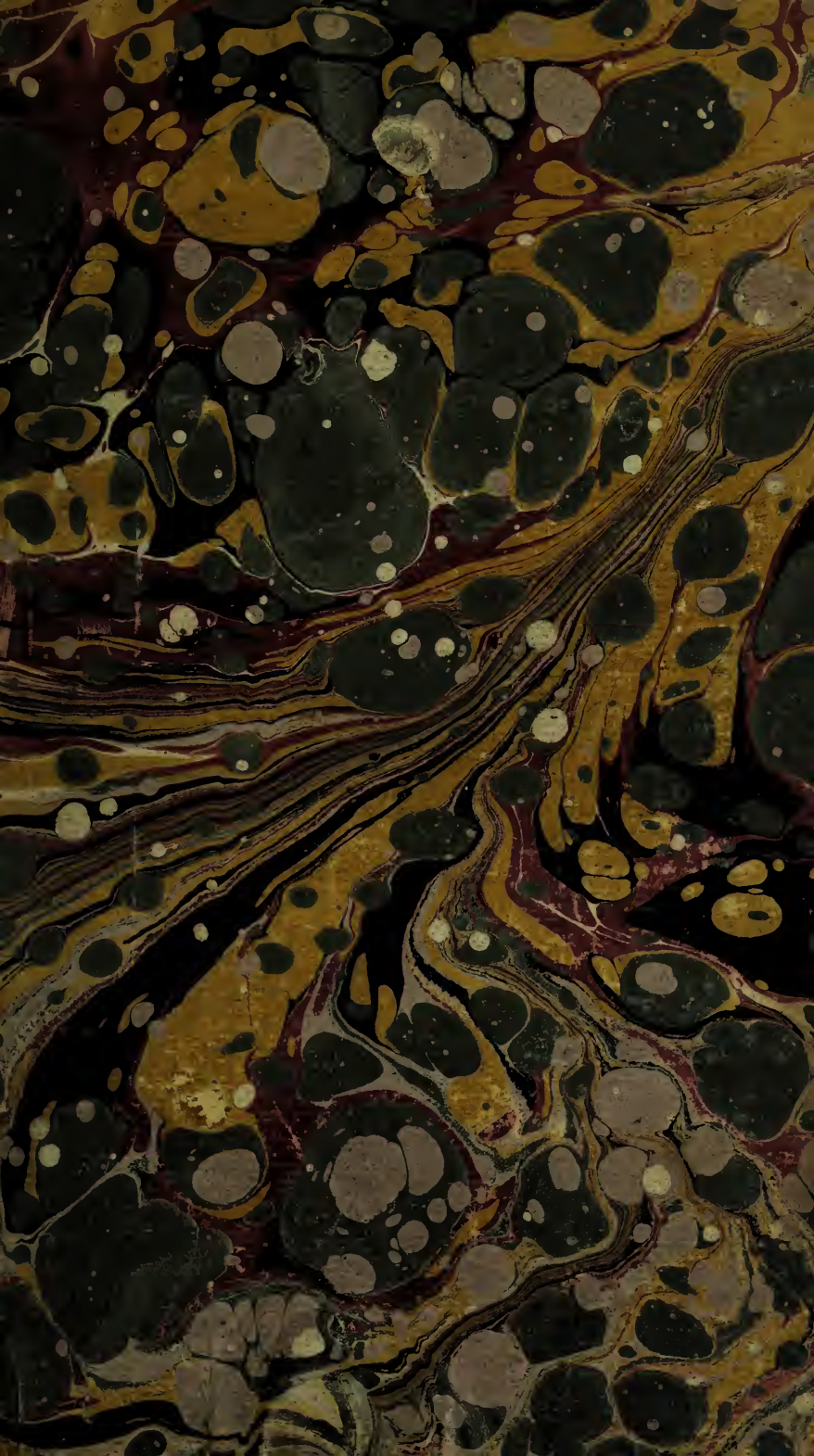






The Marquis of Stafford.





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HISTORICAL AND BIOGRAPHICAL
S K E T C H E S
OF THE PROGRESS OF
B O T A N Y
I N E N G L A N D,
FROM
I T S O R I G I N
TO THE
INTRODUCTION OF THE *LINNÆAN* SYSTEM.

BY
RICHARD PULTENEY, *M.D. F.R.S.*

IN TWO VOLUMES.

V O L. II.

L O N D O N:
PRINTED FOR T. CADELL, IN THE STRAND.

1790.

16773



T O
SIR GEORGE BAKER, BART.
PRESIDENT OF THE ROYAL COLLEGE
OF PHYSICIANS,
PHYSICIAN TO THEIR MAJESTIES,
FELLOW OF THE ROYAL SOCIETY,
AND OF THE SOCIETY OF ANTIQUARIES,
&c. &c. &c.

As eminent for those Endowments which dignify the
Characters he so honourably supports, as for that
Learning and Science which have most
deservedly raised him to the
Attainment of them :

A N D,
T O
MAXWELL GARTHSHORE, M.D.

FELLOW OF THE ROYAL COLLEGE OF
PHYSICIANS, EDINBURGH,
OF THE ROYAL SOCIETY,
AND OF THE SOCIETY OF ANTIQUARIES,
AND PHYSICIAN EXTRAORDINARY
TO THE BRITISH LYING-IN
HOSPITAL, &c.

Equally estimable for Learning and Skill in the Art of
Medicine, as for that Philanthropy which endears
him to all his Friends and Acquaintance :

AS A TRIBUTE
OF THE MOST UNFEIGNED
RESPECT AND ESTEEM;
AND AS A GRATEFUL MEMORIAL
OF THAT UNINTERRUPTED FRIENDSHIP
WITH WHICH BOTH HAVE
LONG HONOURED HIM,
THIS VOLUME IS INSCRIBED,
BY THEIR MOST FAITHFUL
AND OBEDIENT,
HUMBLE SERVANT,
RICHARD PULTENEY.

ELANDFORD,

Feb. 28, 1790.

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V O L. II.

Errors in the Printing.

- Page 64. line 1. *for the read a.*
— 66. — 6. and 7. *dele the inverted Commas.*
— 92. — 23. *for LHWYD, read LLHWYD.*
— 200. — 8. — Mackenbay, *r. Mackenboy.*
— 250. — 15. — LINÆUS, *r. LINNÆUS.*
— 338. — 15. — the *r. a.*
— 345. — 20. *after HANS add SLOANE.*
— 348. — 21. — 1754, — Dr. J. GRUF-
BERG,

HISTORICAL AND BIOGRAPHICAL
S K E T C H E S
OF THE
PROGRESS OF BOTANY,
IN ENGLAND.

C H A P. 27.

Earliest notices of botany in Scotland—Alan Ogilby—Dr. Cargill; *the correspondent of Bauhine and Lobel*—*The Balfours*—Sibbald, *Anecdotes of*—*His Prodromus Historiæ Naturalis Scotiæ*—Cor-meille—*History of Fife and Kinross*—*His other writings*.

Wallace—Preston—Alston, *Memoirs of*—Index Officinalium—Tirocinium—*Adverse to the Linnæan system*—Materia Medica.

S I B B A L D.

IT was late before natural history arose in Scotland. The story of a king *Josina*, who is chronicled to have lived more than 150 years before the Christian æra, having written a book *De Viribus Herbarum*, is not worth a comment. *Fingal* is said to

have been well acquainted with the virtues of herbs : and *Temory* healed the wounds of his countrymen, by his skill in vulnerary vegetables.

Alan OGILBY, who flourished about 1471, a native of *Scotland*, after having travelled through the east, and resided some time at *Constantinople*, fixed at *Venice*. Besides his eminent acquaintance with the oriental languages, he is celebrated for his knowledge of natural history. He left a book *De Balneis*, and six books *De Virtutibus Herbarum*.

Of *Dr. James CARGILL*, of *Aberdeen*, I can produce no material anecdotes, although he merits particular remembrance ; since it is manifest, from the nature of his communications to his friends, both on the continent, and at home, that he must have been extremely well acquainted with the botany of the age. There is sufficient evidence that he had studied botany and anatomy at *Basil*, during the time that *Caspar BAUHINE* held the professorship in those sciences, for whom a chair was first erected in that city, in 1589. This celebrated professor enumerates *Dr. CARGILL* among those who
transmitted

transmitted seeds and specimens to him. GESNER records the same services on his part. At home, LOBEL, in his "*Adversaria*," acknowledges the like communications, and repeatedly speaks of him in very respectable terms, as a philosopher, and as well skilled in the sciences of botany and anatomy. He appears to have been living in the year 1603; at which time he sent to Caspar BAUHINE specimens of the *Fucus digitatus*, with the description, which is seen in the "*Prodromus*" of that author. I know not of any publication from Dr. CARGILL, neither am I acquainted with any successful efforts in the way of natural history, before the time of the BALFOURS.

The founding of the Botanical Garden and the *Museum* at *Edinburgh*, by Sir *Andrew BALFOUR*, may be considered as the introduction of natural history into *Scotland*. Sir *Robert SIBBALD*, the friend and colleague of Sir *Andrew BALFOUR*, and who himself added to the stores of the *Museum*, has written "*Memoria Balfouriana*," purposely to commemorate the liberal benefactions and encouragements given to
B 2 literature,

literature, by Sir *Jacob* and Sir *Andrew* BALFOUR.

The Garden was established about the year 1680; and, in 1683, was so successfully cultivated by *James* SUTHERLAND, the intendant, that it is said to have contained 3000 species of plants, disposed according to MORISON's method. An account of it was published under the title of "HORTUS MEDICUS EDINBURGENSIS; or, a Catalogue of the Plants in the Phyfic Garden at *Edinburgh*, containing their most proper *Latin* and *English* names." By *James* SUTHERLAND. 8°. pp. 367. Varieties, however, occupy a large share of this Catalogue, and very few of the native plants of *Scotland* are found in it. It was to Sir *Robert* SIBBALD that the first attempts towards indigenous botany were owing.

Robert SIBBALD was a fellow of the College of Physicians at *Edinburgh*, and the first medical professor instituted in that university, about the year 1685. He was knighted by *Charles* II. and had also the title of king's physician and geographer royal

royal conferred upon him, and was a man of very considerable and various learning. To the knowledge of his profession, he added that of natural history, and antiquities. He was, if not the first, among the earliest, who wrote on the antiquities of his country, on which he published several learned works, to illustrate, more especially, the history of Scotland during the time of the Romans.

He published, "SCOTIA ILLUSTRATA; sive, PRODROMUS HISTORIÆ NATURALIS SCOTIÆ: in quo regionis natura, incolarum ingenia et mores, morbi usque medendi methodus, et medicina indigena explicantur, et multiplices naturæ partus, in triplici ejus regna, vegetabili scilicet, animali, et minerali explicantur." 1684, folio; and 1696, folio.

In this volume, which, he tells us, was the work of twenty years, one part is appropriated to the indigenous plants of Scotland; it contains observations on the medicinal and oeconomical uses. A few rare species make their first appearance in this book, particularly that which LINNÆUS named *Sibbaldia*, after the author; and the *Ligusticum Scoticum*.

Dr. SIBBALD having thrown out some strictures on the mathematical principles of physic, for which the learned Dr. PITCAIRN was a strenuous advocate, the latter wrote a severe satire on this work, under the title “*De Legibus Historiæ Naturalis.*” Edin. 1696. But it contains nothing solid, and was thought by some to have been the result of party, if not personal dislike.

Among the “*Miscellanea quædam eruditæ Antiquitatis*” of Sir Robert, published in 1710, there is a Dissertation on the *Chara* of CÆSAR *, mentioned also by DIO, on which the soldiers of *Valerius*’s army subsisted, under a penury of bread. This root has been by some supposed to be the *Kare-mile*, Carmele, or, as Mr. LIGHTFOOT calls it, the *Corr*, or, *Cor-meille* †, of the *Highlanders*. It is the *Orobis tuberosus Linnæi*, our Wood Pease.

In his “History of the Sheriffdom of *Fife and Kinross*,” printed the same year, is a catalogue of plants, chiefly maritime,

* *De Bello Civili*, lib. iii. § 40.

† See PENNANT’S *Tour in Scotland*, vol. i. Appendix, 292.

growing

growing about the *Frith of Forth*; among which, he had given to one the name of *Balforiana*, now called *Pulmonaria maritima*.

In the zoological way, Dr. SIBBALD published separately, "*Phalainologia nova*:" 1692. 4°. or, "Observations on some Animals of the Whale Genus, lately thrown on the Shores of *Scotland*." This tract had merit enough to entitle it to a republication, so lately as in the year 1773. He meditated a *Cætologia*, together with the history of the other marine animals of *Scotland*, in his second volume of the "*Prodromus*."

In the year 1706, he communicated to the Royal Society an accurate description, accompanied with a figure of the animal, and its shell, named *Balanus Balenæ*, or *Pediculus Ceti* of BOCCONE (*Lepas Diadema* of LINNÆUS, *Syst.* 1108.) These were published in vol. xxv. of the *Philosophical Transactions*, p. 2314.

Although Sir Robert SIBBALD did not carry his researches so far, as to rank high in the character of the naturalist; yet, as

having led the way in that branch, and singularly promoted the study of the antiquities of his country, he is justly entitled to that honourable station he bears among the writers of *North-Britain**.

WALLACE.

In the year 1700, was published, “An Account of the Islands of *Orkney*,” by *James WALLACE*, M.D. F.R.S. which contains a catalogue of some of the indigenous plants of that northern region. *Flora* is not exuberant in her gifts in the chilling regions of the north. I have not seen this book; but I read, that the *arborefcent*, and some other tribes, particularly the *malvaceous*, are sparingly seen in these islands.

PRESTON.

I know not whether there was any superintendent to the Garden of *Edinburgh*, be-

* His name was applied by LINNÆUS, in the *Flora Laponica*, to a small plant of the *Pentandrous* class; which was known to *Caspar BAUHINE* and others, and considered by them as allied to the *Fragariæ*, and the *Pentaphylla*. It was first figured by SIBBALD in his “*Prodromus*,” being found in *Britain* only on the *Highland mountains*.

tween SUTHERLAND, and George PRESTON, whom BLAIR styles an indefatigable botanist, and who published, about the year 1710, the following Catalogue, written in *Latin* and *English*: “*Catalogus omnium Plantarum quas in Seminario Medicinæ dicto transtulit Georgius PRESTONUS, Bot. Prof. et Hort. Edinburg. Præfectus ex Auctoritate ejus.*” 12°. Not having seen this volume, I can give no account of it. A writer of the same name occurs, though I know not whether the same person, as a correspondent of Mr. RAY. See his Letters, p. 308—316; “Some Observations on Mr. RAY’s “*Synopsis*,” by Dr. PRESTON, tending to illustrate the characters of about fifteen species of *English* plants; with some Strictures on TOURNEFORT’s method of classification.

In the year 1716, Mr. Charles ALSTON succeeded PRESTON as superintendant of the Garden.

ALSTON.

Charles ALSTON, as we are informed by Dr. HOPE, was the son of Mr. *Alston*, of Eddlewood;

Eddlewood; a gentleman of small estate in the west of *Scotland*, and allied to the noble family of *Hamilton*, who, after having studied physic, and travelled with several gentlemen, declined the practice of his profession, and retired to his patrimony. His son *Charles* was born in the year 1683; and, at the time of his father's death, was at *Glasgow*, applying with great assiduity to his studies. On this event, the Duchess of *Hamilton* took him under her patronage, and wished him to have chosen the department of the law; but his inclination for botany, and the study of physic, superseded all other schemes; and, from the year 1716, he entirely devoted himself to physic.

At the age of thirty-three, he went over to *Leyden*, to study under *BOERHAAVE*, where he remained near three years. At that place, he contracted an intimacy with the late celebrated Dr. *Alexander MONRO*; and, with him, on their return to *Edinburgh*, projected the revival of medical lectures; where, but little had been done in that department, since the first establishment of the medical professorships in 1665,
under

under Sir Robert SIBBALD, and Dr. PITCAIRN. The plan was modelled by that of *Leyden*. MONRO was appointed to give lectures in anatomy, and surgery; and ALSTON in botany, and the *materia medica*. RUTHERFORD, SINCLAIR, and PLUMMER, were soon after appointed to fill up the other departments: and, to the spirited endeavours of these celebrated names, the university of *Edinburgh* owes the rise of that reputation, which has since so deservedly raised it to be one of the first schools of physic in *Europe*.

Dr. ALSTON continued to teach botany, and the *materia medica*, with unwearied assiduity, until the time of his death, which took place Nov. 22, 1760, in the 77th year of his age.

In 1740, Dr. ALSTON published for the use of his pupils, "INDEX PLANTARUM præcipue OFFICINALIUM, quæ in Horto Medico Edinburgensi, Studiosis demonstrantur." 8°.

In 1752, "INDEX MEDICAMENTORUM SIMPLICIUM TRIPLEX." 8°. pp. 172.
1. *Alphabetical*; the officinal names, with numerous synonyms, from the best botanical

cal writers, pp. 118. 2. *Officinal* names only; fossils, vegetables, animals, in the order of his lectures. 3. *Classification* of the officinal names, according to the virtues; beginning with the absorbents, and ending with vulneraries. A table of the doses of emetics and purgatives.

In botany, Dr. ALSTON's chief performance was, his "*Tirocinium Botanicum Edin-burgenſe.*" 1753. 8°. It contains a republication of his "*Index,*" first printed in 1740; to which he now added the "*Fundamenta Botanica*" of LINNÆUS. But the bulk of the work is a professed attempt to explode the system of the *Swede*, and particularly to invalidate all his arguments for the *ſex* of plants. This part of it was translated by himself, and published the next year in the first volume of "*Essays and Observations, physical and literary.*" 8°. Could the doctrine of the *ſexes* of plants have been easily shaken, the learning and abilities of ALSTON were sufficient to have effected his purpose. But as it was not at that time supported by hypothesis alone, so it has since gained additional strength, by new experiments,

experiments, and sound inductions, resulting from them. Nurtured from his early years in the systems of TOURNEFORT, RAY, and BOERHAAVE, to the first of which he had even given improvement, it is not strange, that, at an advanced age, Dr. ALSTON rejected a system of so much novelty, as that of LINNÆUS presented. We do not willingly unlearn at sixty, what has been cherished from our earliest youth.

Dr. ALSTON's medical papers are, "A Dissertation on *Tin* as an Anthelmintic;" "A Dissertation on *Opium*;" and "A Case of extravasated Blood in the *Pericardium*." These are printed in the *Edinburgh Medical Essays*.

In 1743, he discovered a property in quick lime, which led him to believe, that the power of lime was not exhausted by repeated affusions of water to the same lime; he adds, even for twenty or thirty times. The first notices of this paradox, as he then called it, were communicated to the *Royal Society*, and were printed in the forty-seventh

seventh volume of the *Philosophical Transactions*. This opinion was contested, and drew him into a controversy with his friend and colleague, Dr. WHYTT. Having continued his experiments, and enlarged his observations, he published, in 1752, his “Dissertation on Quick-Lime and Lime Water;” republished in 1754, and in 1757; in which he replies to Dr. WHYTT’s Strictures; and, after enumerating a variety of diseases, in which lime water has proved efficacious, confirms the opinion of his colleague, relating to its lithontriptic powers.

Dr. ALSTON’s Lectures on the *Materia Medica* were prepared for the press before his decease, and were published under the following title:

“Lectures on the *Materia Medica*; containing the Natural History of Drugs, their Virtues and Doses: also, Directions for the Study of the *Materia Medica*; and an Appendix on the Method of Prescribing. Published from the Manuscript of the late Dr. Charles ALSTON, Professor
“for

“ for of Botany, and the *Materia Medica*, in
“ the University of *Edinburgh*. By *John*
“ HOPE, M. D. Professor of Medicine and
“ Botany in that University.” In two vol.
4°. 1770. pp. 544 and 584.

The first eleven lectures consist of preliminary discourses; on the rise and progress of this knowledge; on the operation of medicines; of errors concerning the *materia medica*; on classing simples according to their virtues; and some account of authors who have written on simples.

In treating on each subject, after reciting the officinal name, and the principal *synonyma*, the description, and place of growth, Dr. ALSTON gives, in his own words, the sensible qualities, powers, and uses of each simple; after which follows, in the words of the authors themselves, a copious detail of the opinions of respectable writers, relating to each; concluding with a recital of all the officinal compounds into which each simple enters. Add to this, the reader will meet with a variety of collateral, and historical information, which is highly gratifying

ing to all such as wish to extend their enquiries beyond the mere nomenclature, and quality of each substance; and which could otherwise be acquired only from laborious researches.

Although the reader will not find the author giving implicit belief to the manifold, and vaunted powers, attributed to numberless simples, through almost all preceding writers; but on the contrary, will meet with judicious doubts, observations, and experiments, yet, Dr. ALSTON'S *Materia Medica* must be considered, on the whole, as exhibiting rather the state of it, as it has been, than as it is, in the works of LEWIS, BERGIUS, MURRAY, and CULLEN. It is but of late that philosophers and physicians have exercised that degree of scepticism on the power of medicines, which must ever influence the mind, when experiments alone form the foundation of medical practice.

Were it within my plan to extend my observations, I should, with grateful pleasure, expatiate on the improved state of
botany

botany at *Edinburgh*, after this period ; when the zeal, and abilities, of my much-honoured and respected friend, the late Dr. *John Hope*, assisted by the royal bounty, enabled him to raise the study of botany to an eminence unrivalled, unless at *Upsal*, by any university in *Europe*.

C H A P. 28.

Plukenet—*Short memoirs of—A learned, critical, and laborious botanist—His Phytographia—Almagestum and Mantissa—His Amaltheum—His works had great merit—Contain near 2800 figures—Plukenet unmindful of generical characters—His strictures on Sloane—His works reprinted in 1769.*

Dr. Uvedale, of Enfield.

P L U K E N E T.

IT has been the fate of many learned men, who have deserved highly of the republic of letters, to have the private circumstances, and occurrences of their lives, in a few years, so far involved in obscurity, that almost their immediate posterity, howsoever desirous of gratifying a natural and laudable curiosity, and of rendering to their memory that tribute which their services have demanded, have been almost wholly frustrated in their endeavours to rescue them from oblivion.

If

If I mistake not, the truth of this position is strongly exemplified, in the person, of whom, in the order of time, I am next to speak. Of Dr. *Leonard* PLUKENET, as far as I can find, there are scarcely any memorials, but what are to be collected from the prefaces of his works; and they afford indeed very scanty information. He has told us, that he was born in 1642; but whether he was of *English* origin, and of what family, does not certainly appear; though it has been conjectured, that he was of *French* extraction. Where he received his scholastic education, or at what place he took degrees in physic, I am not able to ascertain. Some light would be thrown on this circumstance indeed, by determining, where his two friends, *William* COURTEN, Esq. and the Rev. Dr. UVEDALE, of *Enfield*, were educated; since he speaks of both these gentlemen, as having been his fellow-pupils: probably it was at *Cambridge*, as he had a son, named *Richard*, pursuing his studies in that university, at the publication of his *Almagestum*, in 1696. Be that as it may, his writings sufficiently testify his ex-

tenfive knowledge of the learned languages. He dates the prefaces to his works, from Old Palace Yard, *Westminster*; where, from a circumstance mentioned in his *Phytographia*, it may be inferred, that he had a small garden. I know not that he ever attained to any considerable eminence as a practical physician. The contrary may rather be presumed, as I do not find his name in several lists of the College of Physicians, printed in the first years of this century: neither in those of the *Royal Society* at the same period.

His ardour for his favourite pursuit was remarkably strong; *Ut pene nullus, sic ardeo*, was his motto. It does not appear, that he ever had an opportunity of gratifying his taste by travelling in search of plants. He seems to have devoted all his leisure to his work of the *Phytographia*; sparing no pains to procure specimens of rare, and new plants. He had correspondents in all parts of the world; and had access to the gardens of the curious, in the environs of *London*, and to that at *Hampton Court*, which was in a flourishing state, from the care which the
king

king and queen bestowed on it. The Earl of *Portland* also, had so much relish for exotics, as to have repeatedly sent *Jacob REEDE* to the *West Indies*, to collect curious productions for the Royal Garden. *PLUKENET* was one of those to whom *Mr. RAY* was indebted for assistance in the arrangement of the second volume of his *History*; and that eminent man, every where bears the strongest testimony to his merit. Nevertheless *PLUKENET* wanted that patronage, to which his learning, and science, entitled him; and he seems, by his complaints, to have severely felt it. In the latter part of his life, he appears to have been at variance with *SLOANE* and *PETIVER*; two of the first characters of the age, for knowledge in his own studies. He censures their writings, it must be confessed, in a stile of too much asperity. Whether this alienation from those of whom he had before spoken in terms of friendship, and respect, had its origin in jealousy on the one hand, or what is more probable, on the other, in that indignant loftiness, which too often accompanies the consciousness of

neglected merit ; or whether from other sources, I cannot determine. It was however probably unfavourable to PLUKENET, since SLOANE was at that time rising fast into reputation, and influence. In the mean while, no obstacles damped the zeal of PLUKENET ; he was himself at the expence of his engravings, and printed the work at his own charge, until the publication of the last part, his *Amaltbeum*, when he procured a trifling subscription from a few of the nobility, amounting to about fifty-five guineas. Towards the close of his life, he is said to have been assisted by the queen, and to have obtained the superintendency of the garden at *Hampton Court*, and was honoured with the title of Royal Professor of Botany.

I cannot discover the exact time of his decease ; but it is probable he did not long survive his last publication, in 1705.

There is a copper-plate print of Dr. PLUKENET, done in the 48th year of his age, prefixed to the *Phytographia* ; with his arms, field ermine, bearing a bend dexter engrailed gules.

PLUKENET

PLUKENET had all that enthusiasm, without which, few attain pre-eminence; and as the riches of *Flora* were daily pouring into *Britain*, from all quarters of the globe, he failed not to avail himself of every opportunity of adding to his stores. Indigenous subjects were, equally with exotics, the objects of this industrious, and learned collector. Hence at length, his *Herbarium* consisted of eight thousand plants; an astonishing number for a private, unopulent individual to collect! Of these, the *Phytographia* is to be considered as the delineation of the new and rare kinds; and the *Almagestum*, *Mantissa*, and *Amaltheum*, as the catalogue of the whole.

The *Phytographia* was published at different times. The first part under the following title:

“ PHYTOGRAPHIA; sive, STIRPIUM ILLUSTRIORUM et MINUS COGNITORUM ICONES.” 1691. 4°. tab. 1—72.

Pars II. 1691. 4°. tab. 73—120.

Pars III. 1692. 4°. tab. 121—250.

Pars IV. 1696. 4°. tab. 122—328.

These four parts, which constitute the first

volume of his works, consist entirely of figures.

In the same year with the fourth part of the *Phytographia*, came out,

“ALMAGESTUM BOTANICUM; sive, *Phytographiæ Plukenetianæ Onomasticon, Methodo Synthetica digestum; exhibens Stirpium exoticarum, rariorum, novarumque Nomina, quæ Descriptionis Locum supplere possint.*”
4°. 1696. pp. 402.

PLUKENET follows no system; the Catalogue is alphabetical, and contains near 6000 species, of which he tells us 500 were new. Synonyms are added to each, and references made to those figured in the *Phytographia*. No man after Caspar BAUHINE had till then examined the antient authors, with so much attention, as PLUKENET, in order to settle the synonyms with truth: and many critical notes interspersed, prove his intimate acquaintance with all the resources of botanical literature.

Not solicitous to form new *genera*, he refers, from the conformity of *habit* in almost all instances, his new plants to the *genera* of former authors; and, more anxious
concerning

concerning the *species*, he has described them with an accuracy that has been applauded. Not that PLUKENET was unacquainted with *system*, as is manifest from one of his criticisms on SLOANE, in the *Mantissa*, p. 113; and from his Observations on the first edition of Mr. RAY's *Synopsis*, published in the Collection of RAY's Letters, p. 226.

Four years after the publication of the PHYTOGRAPHIA, came out, with a continuation of the plates, "ALMAGESTI BOTANICI MANTISSA, *Plantarum novissime declararum ultra Millenarium Numerum complectens.*" 1700. 4°. pp. 192. tab. 329—354. Besides many new plants, this volume contains very numerous additions to the synonyms of the *Almagestum*. Many curious critical observations, on some of the plants of the ancient authors, occur in this volume; which evince the depth of his knowledge, and the extreme pains he took in the investigation of his subjects *. A very copious index to both volumes concludes the work.

It

* See his Observations on the *Cedrus*, p. 41; on the *Juniper* of the Hebrews, p. 109; on the *Kinfa* of the Chinese,

It is in the *Mantissa* we first meet with strictures on SLOANE and PETIVER. He censures PETIVER especially, with a degree of satyrical acrimony, for errors in the application of synonyms in his *Centuriæ*; and SLOANE for the like mistakes in his “Catalogue of *Jamaica* plants;” accusing the latter of having also applied his synonyms from the *Phytographia*, without acknowledgments, or any reference. *Hinc illæ lachrymæ!*

Five years after the MANTISSA, he published his last work, “The AMALTHEUM BOTANICUM; *f. Stirpium Indicarum alterum Copiæ Cornu, Millenas ad minimam, et bis Centum diversas Species novas et indiētas nominatim comprehendens: quarum sexcenæ et insuper selectis Iconibus æneisque Tabulis illustrantur.*” 1705. 4°. pp. 216. tab. 351—454. Some of the tables of this volume belong to the plants of the *Mantissa*. It abounds with new subjects, sent from *China* and the *East Indies*, by Mr. CUNNINGHAM and Mr. BROWN, and with some from *Florida*.

Chinese, or the *Poco sempic*, p. 111; on the *Myrobalans*, p. 132; on the *Ginseng*, p. 135, &c. &c.

PLUKENET'S

PLUKENET'S work contains upwards of 2740 figures. Most of them were engraved from dried specimens, and many from small sprigs, destitute of flowers, or any parts of fructification, and consequently not to be ascertained : several of these, nevertheless, as better specimens came to hand, are figured a second time, in the subsequent plates. As he employed a variety of artists, they are very unequally done : those by *Vander Gucht* have usually the preference. The imperfections of this work, however, are, in a great degree, those of the times ; yet it cannot but be regretted that PLUKENET had it not in his power to have given his figures on a larger scale. There are unquestionably many varieties exhibited as real species ; and one great defect runs nearly through the whole work, that the new plants are no further described, than by the specific definitions, which, under the want of true generical characters, were then insufficient.

It is, notwithstanding, a large magazine of botanical stores ; inasmuch as, no work before published by one man, ever exhibited so great a number of new plants. And as
many

many of the *English* species are here figured, for the first time, it has been equally acceptable to the lovers of indigenous, as of exotic botany.

LINNÆUS, and others, mention a new edition of PLUKENET's works in 1720. But this was nothing more than the usual artifice of the bookseller; who, having purchased the remaining copies, placed a new title-page. They were, however, reprinted, and divided into four volumes, in 1769, with the addition of a few plates, that were wanting in some copies of the fourth part of the *Phytographia*. Those who occasionally consult this author, will regret, that this opportunity had not been taken, of inserting the additions from the *Mantissa* into the *Almagestum*, by introducing them in a smaller character, and placing the pages for both in the margin. The *Herbarium* of PLUKENET came into Sir Hans SLOANE's possession, and is now in the *British Museum*.

In 1779, an *Index Linnæanus* to the tables was published by Dr. GISEKE, professor of poetry, and natural philosophy, in the *Gymnasium*

naſium of *Hamburgh*, which contains a few notes from a MS. left by PLUKENET *.

Dr. PLUKENET has not failed to record the names of a numerous ſet of benefactors, by whoſe communications he was, from time to time, enabled to amplify his collection, and introduce many new plants to the knowledge of the curious. Among ſeveral others, we find, repeatedly, the names of PETIVER, COURTEN, SHERARD, DU BOIS, Biſhop COMPTON, Dr. *Tancred* ROBINSON, Dr. SLOANE, CUNNINGHAM, and UVEDALE. Some of theſe I ſhall have occaſion to commemorate in ſeparate articles; but I regret that I cannot collect any material anecdotes relating to his friend and fellow collegian, —— UVEDALE, LL.D. of whom PLUKENET ever ſpeaks in a ſtile which indicates that he held him in great eſteem.

* Father PLUMIER complimented this learned botaniſt, by calling after his name a climbing ivy-leaved plant, of the *Monœcious* claſs, with a *Monadelphous* flower, deſcribed only by himſelf, and by RUMPHIUS, being a native of both Indies,

UVEDALE.

UVEDALE.

Dr. UVEDALE lived at *Enfield*, where he cultivated a garden, which appears to have been rich in exotic productions. And although he is not known among those who advanced the indigenous botany of *Britain*, yet his merit as a botanist, or his patronage of the science at large, was considerable enough to incline PETIVER to apply his name to a new plant, which MILLER retained in his Dictionary; but which has since passed into the genus *Polymnia*, of the *Linneæan* system; the author of which has nevertheless retained *Uvedalia*, as the trivial epithet.

C H A P. 29.

Petiver — *Anecdotes of* — *Successful in collecting a museum of natural curiosities* — *His works* — *Centuriæ* — *Gazophylacium* — *Middlesex plants* — *Plantæ Chinenfes* — *Switzerland plants* — *Pterigraphia* — *English Herbal* — *Various other lists* — *and papers in the Philosophical Transactions.*

P E T I V E R.

CONTEMPORARY with PLUKENET lived Mr. *James* PETIVER, of whom too little intelligence is remaining.

It appears that he was apprenticed to Mr. *Feltham*, apothecary to *St. Bartholomew's Hospital*. He entered into business for himself in *Aldersgate Street*, where he lived the remainder of his days. He became apothecary to the *Charter House*, and obtained a considerable share of practice in his profession.

He had an early propensity to these studies, and, excepting Mr. COURTEN, and Dr. SLOANE, seems to have been the *only* one, after

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ter the TRADESCANTS, who made any considerable collection in natural history. PETIVER engaged the captains, and surgeons of ships, to bring home specimens, and seeds of plants, birds, stuffed animals, and insects; and he directed their choice, and enabled them to judge, in some measure, of proper objects, by distributing printed lists and directions among them. He was not less anxious to procure, what his native country afforded, and was so successful in his efforts, that Sir *Hans* SLOANE, who afterwards purchased it, offered PETIVER four thousand pounds for his *Museum*, some time before his death: which offer, although it may be considered as a proof of the opulence of Sir *Hans*, is equally so of the extent of the collection.

The allurements of such uncommon curiosities as Mr. PETIVER exhibited, soon obtained him considerable distinction, and his name became well known, both at home and abroad. He was elected into the *Royal Society*; and as his particular attachment was to plants, he became early the correspondent of Mr. RAY, who acknowledges his

his assistance in arranging the second volume of his "History of Plants;" and elsewhere owns his high obligations to him, for the extent and freedom of his communications.

In the year 1692, preparatory to the publication of his first work, PETIVER took a tour into the midland counties of England. I recollect, on this occasion, the pleasure I had in my youth, in seeing the *Lichen jubatus* growing on the spot, where, I believe, he first discovered it, on the highest rocks in *Charley Forest, Leicestershire*.

Mr. PETIVER's first publication was, "*MUSEI PETIVERIANI Centuriæ decem.*" 1692—1703. 8°. Containing the names, and synonyms of various rare animals, fossils, and plants; among which, several curious articles, the produce of *England*, are here first exhibited; particularly some of the *Cryptogamous* class, in the investigation of which he was very successful.

"*GAZOPHYLACII NATURÆ et ARTIS Decades decem.*" 1702. tab. 100. fol. A book of great value at the time of its publication, being the engravings, accompanied with

VOL. II. D short

short descriptions, of animals of all the orders, vegetables, and fossils: among these are many *American* ferns, plants of the *Alps*, and from the *Cape of Good Hope*; all, either very rarely seen before, or nondescripts. It will retain its value while LINNÆUS's writings are in use.

Among the provincial lists of plants, printed in Bishop GIBSON's edition of CAMDEN in 1695, Mr. PETIVER communicated the *Middlesex* plants. All the others were drawn up by Mr. RAY, as was observed under his article.

Next to the *Gazophylacium* in the order of time, although not a distinct work, was published, in Mr. RAY's third volume of his History of Plants, "PLANTÆ RARIORES CHINENSES, MADRASPATANÆ et AFRICANÆ, à Jacobo PETIVERO, ad Opus consummandum collatæ: cum ejusdem Catalogo Plantarum in Hortis suis siccis conservatarum, quæ vel ineditæ, aut hætenus obscure descriptæ sunt: adjicitur Farrago Stirpium Indicarum, et Americanarum incertæ Sedis."

The first of these catalogues amounts to 184 plants: those of the *Hortus siccus*, to
more

more than 800 species: the last to 75. Although doubtless great numbers of these must have been varieties only, these lists will yet remain a lasting testimony of the early and extreme diligence of this indefatigable collector.

In 1709, he published, without his name, “ A Catalogue of Plants found on the
“ mountains about *Geneva*, the *Jura*, *La*
“ *Dole*, *Saleve*; with others growing in the
“ fields, &c. as observed by GESNER, the
“ BAUHINES, CHABRÆUS, and RAY.”

“ PTERIGRAPHIA AMERICANA: ICONES continens plusquam CCCC Filicum variarum Specierum.” Tab. 20. 1712. fol. The ferns occupy sixteen of these tables. Among these are contained most of Father PLUMIER’s ferns. The four remaining tables are of submarine productions.

Mr. PETIVER neglected no opportunities of augmenting the *English Flora*. He was the first discoverer of many *English* plants, as well as of other natural productions, some of which he figured in the *Gazophylacium*; but he meditated, and in part executed, (a work that had not been at-

tempted before) a set of distinct figures of *British* plants. Unfortunately he lived not to finish it.

This work, which distinguishes PETIVER as an auxiliary to *English* botany, bears the title of "A Catalogue of Mr. RAY's "*English Herbal*, illustrated with Figures." fol. 1713. t. 50; and continued "with the "four-leaved flowers," t. 51—72. fol. 1715. Twelve plants are engraved on each plate. The work ends with the seventeenth class. The figures are little more than outlines, but they are neat; and though they have the defect of the old herbals, in being all on a similar scale, were valuable, and especially as pointing out many of the varieties in the *Synopsis* of RAY, particularly among the *Apetalous* and *Syngenesious* tribes. A new impression of these plates was made under the inspection of Sir *Hans* SLOANE, in 1732.

These were the most material works of PETIVER. His smaller publications amount to a great number, and are of less importance at this day, as being principally short catalogues and single tables of rare plants,

plants, intended, in many instances, as instructions to his various correspondents:

Plantarum Etruriæ rariorum Catalogus.
1715. fol. one sheet.

Monspelii desideratarum Plantarum Catalogus. 1716. fol. one sheet.

Plantarum Italiæ marinarum et Graminum Icones Nomina, &c. 1715. fol. one sheet, with five plates.

Hortus Peruvianus medicinalis: The South Sea Herbal of FEUILLE's Medicinal Plants.
1715. with five plates.

GRAMINUM, MUSCORUM, FUNGORUM
SUBMARINORUM et BRITANNICORUM,
CONCORDIA. 1716. fol.

*Petiveriana, s. Collectanea Naturæ domi
forisque Auctori communicata.* 1717. fol.

Plantæ Silesiacæ rariores ac desideratæ.
1717. fol. a single sheet.

*Plantarum Ægyptiacarum rariorum Icones:
et aliarum Catalogi duo.* 1717. fol. one
sheet, with two plates.

*Plants engraved in Mr. PETIVER's Eng-
lish Herbal.* fol. one sheet.

Hortus siccus Pharmaceuticus.

Directions for gathering Plants.

Besides these small publications, he put forth, at different times, twenty-eight tables of rare plants; of which nineteen contained *American* plants; four, rare plants from various parts of *Italy*; two, *Austrian* plants; and one, *Indian* roots and gums.

There are more than twenty papers written by PETIVER, and published, at divers times, in the *Philosophical Transactions*, between the years 1697 and 1717.

A Catalogue of some *Guinea* Plants, with their Nature, Names, and Virtues; sent by the Rev. *John* SMITH, from *Cape Coast*; with Remarks, by Mr. PETIVER. N° 232. Vol. XIX. p. 627.

An Account of forty-six Plants, collected by Mr. *Samuel* BROWNE, near *Madras*; with the Synonyms, and critical Observations, by Mr. PETIVER, N° 244. Vol. XX, P. 313.

Remarks on some Animals, Plants, &c. sent by the Rev. Mr. *Hugh* JONES, from *Maryland*. N° 246. Vol. XX. p. 396.

An Account of Part of a Collection of curious Plants and Drugs, collected at *Madras*

dras by Mr. Samuel BROWNE, and presented to the Royal Society by the East India Company: in eight books, published at different times; the first in N° 236, the last in N° 299. Vol. XXIII.

MR. PETIVER was among the first who pursued the idea that the virtues of plants might be determined, in general, by their agreements in natural characters and classes. I say pursued, because the idea had been suggested long before. Even CÆSALPINUS, the inventor of system, hints that the virtues of plants are pointed out by their structure, and alliance to each other. These are his words: *Tandem et facultates, quas medici maxime quæerunt, tanquam proprietates innotescunt ex naturarum cognitione: quæ enim generis societate junguntur, plerumque et similes possident facultates* *.

PETIVER's paper bears the following title: "Some Attempts made to prove, " that Herbs of the same Make, or Class, " for the generality, have the like Vertue, " and Tendency to work the same Effects." N° 255. Vol. XXI. p. 289.

* Cæsalp. Pref. ad Lib. de Plantis.

As a first essay, Mr. PETIVER has successfully treated his subject. It is well known what use LINNÆUS and others have since made of it: and Dr. MURRAY, the present Professor, of *Gottingen*, has chosen this arrangement for his *Apparatus Medicaminum*. In BLAIR's "Miscellaneous Observations," published in 1718, Mr. PETIVER defends his doctrine, in answer to Dr. BLAIR's doubts on that head.

Remarks on some Insects, sent by Mr. BANISTER from *Virginia*, in 1680. N° 270.

An Account of some Animals, sent by Mr. E. BULKELEY from *Madras*. N° 271, and 276.

A Description of some Shells, from the *Molucca* Islands. N° 274.

An Account of some Animals, sent to Mr. PETIVER from the *Philippine* Islands, by Father GEMELLI. N° 277.

A Description of some Shells, sent from *Madras* by the Rev. Mr. LEWIS to Mr. PETIVER. N° 282.

A Description of some Corals and other Submarines, from the *Philippine* Islands,
sent

sent by *Father* CAMELLI to Mr. PETIVER.
N° 206.

An Account of some Shells and Animals, sent from *Carolina* to Mr. PETIVER.
N° 299.

A Catalogue of Fossil-Shells, Metals, and Minerals, sent by Dr. *John* SCHEUCHZER to Mr. PETIVER. N° 301.

An Account of some Minerals, petrified Shells, and other Fossils, from *Berlin*.
N° 302.

An Account of a MS. of *Father* CAMELLI's, concerning some Shells, Minerals, Fossils, and of the Warm Baths of the *Philippine* Islands. N° 311.

An Account of some Swedish Minerals, sent to Mr. PETIVER. N° 337.

As Mr. PETIVER accompanied these communications with remarks, the exhibition of such objects, from so intelligent a naturalist, in the early period of the *Royal Society*, when the study of nature was in its infancy, could not fail to convey much information, and excite a curiosity to pursue with zeal, one of the chief ends of the institution.

In

In N° 313, Mr. PETIVER communicated to the Royal Society the manner of making the *Styrax liquida*, which, he says, is from the bark of the *Rosa mallas* (the character of which is unknown) which grows on the island *Cobross*, in the Red Sea. If this be the origin of the true, or oriental kind, there is likewise a *Styrax liquida*, from the *Liquidambar* tree of *Virginia*. What is generally met with now, is justly suspected to be a mixed artificial composition.

In N° 232, Mr. PETIVER published, under the title of *Botanicum hortense*, an Account of divers rare plants, observed in several curious gardens about *London*, particularly in the Physic Garden at *Chelfea*. This was continued, in seven separate tracts, to N° 346. Vol. XXVII. XXVIII. XXIX.

Mr. PETIVER died at his house in *Alderfgate Street*, on the 20th of April, 1718. His body was carried to *Cooke Hall*, where, agreeably to the custom of the time, it lay in state. The pall was supported by Sir *Hans SLOANE*, Dr. *LEVIT*, physician to the *Charter House*, and four other physicians. He left five guineas to Dr. *Brady*,
for

for preaching his funeral sermon, and fifty pounds to the charity school of *St. Ann's, Aldersgate**.

Many of PETIVER's smaller pieces having become very scarce, his works, exclusive of his papers in the "Philosophical Transactions," were collected and published in 1764, in two volumes in folio, and one in octavo; with the addition of some plates, not in the first edition.

* PETIVER's name was annexed by PLUMIER to one of his new *American genera*, of which a second species is common in *Jamaica*, and had been described by SLOANE as belonging to the *Verbena* or *Schrophularia* genus.

C H A P. 30.

*Personal names given to plants—Antiquity of—
Instances in the antients—Among the monks—
and the restorers of botany: by Gefner and
Matthiolum—Revived by Plumier—His liberal
and impartial use of this privilege.*

*Anecdotes of Plumier—Account of his works—
Description of American plants—Nova genera
—American ferns—Five hundred of his tables
purchased by Boerhaave—Published by Burman
—His L'Art de Tourner.*

PERSONAL NAMES OF GENERA.

PETIVER and PLUKENET, as far as I can find, were the first *English* writers, who followed the example of PLUMIER in giving personal names to new genera. PETIVER is, however, severely reprehended by LINNÆUS, for having conferred this honour on some who did not merit it: He observes justly, that it is due to such alone, as have signalized themselves in the science. I take this opportunity to remark the rise
and

and progress of this custom, which appears to be of high antiquity, since there are examples of it among the antient poets, historians, and physicians.

Poetry has consecrated, in this way, the names of *Adonis*, *Daphne*, *Hyacinthus*, *Narcissus*, and others. PLINY informs us, that *Eupatorium* is said to be the cognomen of MITHRIDATES, who first discovered the uses of that plant. *Gentiana*, we are told, is derived from GENTIUS, king of *Illyria*: *Lysimachia*, from LYSIMACHUS, king of *Sicily*: *Telephium*, from TELEPHUS, king of *Mysia*: *Teucrium*, from TEUCER, king of *Troy*: *Clymenum*, from CLYMENUS: *Artemisia*, from the wife of king MAUSOLUS: *Helenium*, from HELENA, the wife of *Menelaus*: *Euphorbium*, from EUPHORBUS, physician to *Juba II.* king of *Mauritania*; though SALMASIUS avers, that this name had been in use at a much earlier period. Many other instances might be adduced.

In succeeding ages, the devotion of the monks led them to consecrate a variety of plants to the saints of the kalendar. Thus we have the *Herba Sancti ANTO-*

NII, *Epilobium*: S. CHRISTOPHORI, *Actæa*: S. GERARDI, *Ægopodium*: S. RUPERTI, *Geranium*: S. JACOBI, *Senecio*: S. PETRI, *Parietaria*, &c. &c. John BAUHINE wrote a treatise, in 1591, now become very scarce, “*De Plantis à Divis Sanctifve Nomen habentibus.*”

The restorers of botany, in a few instances, revived the practice. GESNER, had he lived to finish his plan in his “History of Plants,” intended to have perpetuated the names of his friends, by monuments of this kind. It appears, that he had requested GUILANDINUS, John BAUHINE, KENTMAN, CAMERARIUS, and our celebrated countryman Dr. CAIUS, to select from his new species, such as they chose to bear their names, or allow to him the privilege of adopting what he thought most congruous. By the same kind of tribute we learn, from his letters, that he proposed to record the names of his friends GASSERUS, OCCO, ARETIUS, and several others.

MATTHIOLUS, however, actually restored the usage, by the application of the term *Cortusa* to a new plant, in honour of
CORTUSUS,

CORTUSUS, the successor of GUILLANDINUS, in the garden of *Padua*; and CLUSIUS followed his example, by calling the *Contrayerva* of the shops *Drakæna*, in honour of Sir *Francis DRAKE*; from which time it was sparingly practised, until after the invention of system; and the construction of generical characters, at the latter end of the last century. TOURNEFORT, PLUMIER, and PETIVER, led the way, and have been followed by all succeeding writers of note, and by none more than by LINNÆUS himself. It may be stiled the *apothecosis* of botanists; and LINNÆUS may be compared to the high priest, who has thus immortalized a numerous group of celebrated men.

The practice, however, was severely censured by some of the older botanists, who objected, that these names, having no connection with the form, nature, habit, or properties of the plant, conveyed no idea of distinction. But the objection, if duly weighed, is of no force; since there is not, perhaps, a single appellation, even among the best, of *Greek* etymology, however aptly

framed, which conveys any character of the genus, that might not with equal propriety have been applied to a multitude of others.

The free use that PLUMIER made of this privilege, in honouring so great a number of Englishmen, does equal credit to his own discernment, and impartiality, and to the merit of those on whom he bestowed this laurel. On this account, I hope it may not be ungrateful to the reader, to digress so far, as to introduce a short notice of this liberal-minded foreigner.

PLUMIER.

Charles PLUMIER was born at *Marseilles*, in the year 1646; and, after a classical education, devoted himself to a religious life; and, at the age of sixteen, entered into the order of the *Minime Friars*. Being early inclined to mechanics and philosophy, he studied mathematics, at *Toulouse*, under *Père Maignan*, a celebrated professor of the science, and of the same order. In some of his leisure hours, he amused himself in the practice of Turning, having been taught the art by his father; and became so great a proficient,

a proficient, that he wrote a book on the subject. Under *Père Maignan*, he also learned to make lenses, mirrors, microscopes, and other instruments of philosophy; and early acquired the arts of designing and painting. He was soon after sent by his superiors to *Rome*, where his close application to his studies, and to these arts, together with optics and mathematics, deranged his health. In this situation, he sought for relaxation in the study of botany, under the lectures of *Père SERGEANT*, in a convent at *Rome*, and in the instructions of *Francis de ONUPHRIIS*, an Italian physician, and of *Sylvius BOCCONE*, a Sicilian. By these connections, he was insensibly led to devote himself to his new study. Being recalled by his order into *Provence*, he was placed in a convent near *Hyeres*, and obtained leave of his superiors to search the coasts of that country, and the neighbouring Alps, for plants. At this time, he conceived a design of forming a new *Pinax*, or "General History of Vegetables," for which he had made many drawings, and collected materials; but his subsequent destination

prevented his making an effectual progress in this design. He soon after became acquainted with TOURNEFORT, then on his botanical tour in the South of *France*; and, together with GARIDEL, professor of botany at *Aix*, accompanied that eminent man in his researches.

Thus qualified, and while he was herborizing on the coast of *Marseilles*, he was chosen as the associate of SURIAN, to explore the French settlements in the West Indies. The French were stimulated to this expedition, by the success of our great naturalist, SLOANE, in *Jamaica*. PLUMIER acquitted himself so well, that he was twice sent afterwards, at the King's expence, to compleat the natural history of the *Antilles*; and was rewarded with the title of Botanist to the King, and an increased pension each time. He passed two years in those islands, and on the neighbouring continent; but made *Domingo* his principal residence. He made designs and paintings of many hundred plants, on a scale as large as the life; besides numerous figures of birds, fishes, and insects.

On his return from his second voyage, by the interest of M. PONTCHARTRAIN, he procured the first specimen of his labours to be published at the *Louvre*, under the title of “*Description des Plantes de l’Amérique.*” Fol. 1695. pp. 94. tab. 108. The first fifty of these tables represent Ferns; the remainder, divers species of the *Arum* genus; the *Piper*, *Passifloræ*, *Rajania*, *Dolichos*, and various others. The figures consist of little more than outlines; but being as large as the life, and drawn with great accuracy and freedom, they have a very fine effect. The descriptions are in French.

On his return from the third voyage, he settled at *Paris*, in the character of his order; and, in 1703, published his “*Nova Plantarum Genera.*” 4°. In this work, which is constructed on the plan of TOURNEFORT’s “*Institutions of Botany,*” the author describes, and figures, the characters of 106 new *genera*; among which are many of the plants used in medicine. It is in this book he pays the tribute, so often specified, not only to the manes of deceased botanists, but to several eminent men then

living : he has, in this way, given appellations to more than fifty *genera*, taken from the names of botanists.

In the course of these pages, those general terms, which have been formed from the names of *English* botanists of renown, thus celebrated by *Father* PLUMIER, are mentioned under their respective articles : but I here collect them into one view :

<i>Gerardia.</i>	<i>Plukenetia.</i>
<i>Lobelia.</i>	<i>Rajania.</i>
<i>Morisonia.</i>	<i>Sloanea.</i>
<i>Parkinsonia.</i>	<i>Turnera.</i>
<i>Petiveria.</i>	

In the year 1704, he was prevailed on by M. FAGON, to undertake a voyage to *Peru*, to discover and delineate the *Peruvian Bark* tree. Nothing but the greatest zeal for science, could induce a man at the age of fifty-eight, to attempt so perilous a voyage. While he was waiting for the ship, to embark with a new viceroy at Port *St. Mary*, near *Cadiz*, he was seized with a pleurisy, and died.

Having, before his departure from *Paris*, prepared for the press his “*Traité des Fou-*

†

geres

geres de l'Amerique," it was printed in folio, in 1705; pp. 146. tab. 172. The text in *French* and *Latin*. All the Ferns contained in the former volume enter again into this; and, as this likewise was printed at the King's expence, it has all the advantages in the execution, that accompanies royal munificence.

We are informed by Dr. LISTER, that PLUMIER left behind him drawings of plants, sufficient to make ten volumes, equal to the first book above mentioned. They are said to have amounted to 1400. Some of these remained in the convent at *Paris*, to which PLUMIER belonged: others were in the King's library. From the latter, BOERHAAVE procured copies of 508 species, done by AUBRIET, under the inspection of VAILLANT. These were published in 1755—1760, by Professor BURMAN, at *Amsterdam*, in ten *fasciculi*, accompanied with 262 plates, on which are engraven upwards of 400 species: and Dr. BLOCH, of *Berlin*, has procured many of the fishes for his late splendid work on ichthyology.

PLUMIER was the author of two dissertations; one in the “*Journal des Scavans*” of 1694; the other in the “*Journal des Tre-voux*,” to prove that cochineal was an insect; a fact doubted by many at that time, and concerning which his own testimony had been controverted. In the same work occur some publications by PLUMIER, on other zoological subjects.

His *L'Art de Tourner* was first published at *Lyons* in 1701; and a second time at *Paris*, so lately as in 1749, in folio, with eighty plates. It is spoken of as a curious and singular work, containing the most compleat instructions relating to that art, that are to be met with.

C H A P. 31.

Banister—*communicates plants to Ray—Perished in Virginia by falling from the rocks—His papers in the Philosophical Transactions.*

Vernon and Kreig—*collect an Herbarium in Maryland.*

Cunningham—*enriched exotic botany, by sending plants from China and the East Indies.*

Brown, Samuel, and Alexander—Glen—*Contemporary of Ray—His Herbarium.*

B A N I S T E R.

JOHAN BANISTER, is mentioned by Mr. RAY in very high terms, as a man of talents in natural history. He first made a voyage to the *East Indies*, where he remained some time ; but was afterwards fixed in *Virginia*. In that country he industriously sought for plants, described them, and himself drew the figures of the rare species : he was also celebrated for his knowledge of insects, and meditated writing the natural history of *Virginia*, for which, Mr. RAY

observes that he was every way qualified. He sent to RAY, in 1680, "A Catalogue of Plants observed by him in *Virginia*;" which was published in the second volume of RAY's History, p. 1928.

The world was deprived of much of the fruit of his labours, by his untimely death. BANISTER increased the list of martyrs to natural history. In one of his excursions, in pursuit of his object, he fell from the rocks, and perished. His *Herbarium* came into the possession of Sir *Hans* SLOANE, who thought it a considerable acquisition.

The following papers, written by Mr. BANISTER, were published in the *Philosophical Transactions*:

A Catalogue of several Curiosities found in *Virginia*. N° 198. p. 667.

Observations on the *Musca Lupus* of MOUFFET, in *Virginia*. They relate to the balancers or poisers, called by LINNÆUS *Halteres*, fixed under the wings of the order of *Diptera* among insects. N° 198. p. 670.

On several Sorts of Snails observed in *Virginia*. Ib. p. 672.

A Description

A Description of the *Pistolochia*, or *Serpentaria Virginiana*, the Snake-root of the shops (*Aristolochia Serpentaria*, Lin.) N° 247. p. 467 *.

VERNON AND KREIG.

About the same time with BANISTER, as I conjecture, Mr. *William* VERNON, fellow of St. Peter's College, *Cambridge*, and Dr. *David* KREIG, a German physician, led by their genius for botany, made a voyage to *Maryland*. They returned, after having collected an *Herbarium* of several hundred new and undescribed plants. These came into the possession of Sir *Hans* SLOANE, by whose liberal communication they were inserted in the "Supplement" to RAY's History. Mr. VERNON is also spoken of by RAY, as not less skilful and assiduous in the pursuit of *English* plants,

* Mr. HOUSTON consecrated to BANISTER a genus of *Decandrous* climbing plants, which SLOANE, PLUKENET, and PLUMIER had ranked with the *Acer*: But the distinction of HOUSTON stood the test of the *Linneæan* rules, and is preserved in the sexual system.

and

and of all other branches of natural knowledge. His discoveries in the *Cryptogamia* class were numerous.

Of Dr. KREIG, I can give no further account than that he was of *Saxony*. I conjecture, that after his return from *Maryland*, he retired into his native country. He was the friend and correspondent of DALE, who, in his *Pharmacologia*, introduces his name in the most respectful manner, for notices communicated by him; and ranks him among the few eminent men of the time, who excelled in the knowledge of the *Materia Medica* and Chemistry. Dr. KREIG was not living when DALE published the third edition of the above-mentioned work, in 1737.

Dr. KREIG communicated to the Royal Society, "An Account of Cobalt and the Preparation of Smalt and Arsenic," according to the process used at the mines of *Shneeberg*, in *Hermanduria*. It was printed in the *Philosophical Transactions*, N° 293. Vol. xxiv. p. 1754; with figures of the Furnaces.

CUNNINGHAM.

CUNNINGHAM.

In the period we are now speaking of, but few voyagers possessed any considerable knowledge of nature ; or a spirit of enquiry, powerful enough to induce them to sacrifice their avocations, from interested pursuits, to the study of natural history. SLOANE, BANISTER, and a few others, were indeed exceptions; and, in this sketch, it would be injurious to his memory, not to add the name of *James CUNNINGHAM*, to whom RAY, and particularly PLUKENET and PETIVER, acknowledge important obligations, for his copious communications of new plants.

The merit of Mr. CUNNINGHAM would justly demand a more complete gratification of curiosity concerning his life and circumstances, than I can supply. I can only collect, that he went out in 1698, as surgeon to the factory, established by the East India Company at *Emuy*, or *Amoy*, on the coast of *China* ; and afterwards, made a
second

second voyage in the same capacity, to the subsequent establishment at *Kusan*, or *Chusan*, in 1700, on which island he resided some time.

I conjecture also, that he was afterwards fixed at *Pulo Condore*, and was the person to whom we owe the account of the massacre of the *English*, by the *Macassars*, at that factory, in 1705, as related in the Modern Part of the *Universal History*, vol. x. p. 154; edit. 1759. 8°.

Mr. CUNNINGHAM kept a journal of the weather in both his voyages to *China*; and during his residence on the isle of *Chusan*, he appears to have been very active in collecting the productions of that place. He sent over to PLUKENET and PETIVER a very large number of new plants, as is evident from an inspection of their writings. In the "*Amalthcum*" of PLUKENET, his name occurs in almost every page.

From the island of *Ascension*, Mr. CUNNINGHAM transmitted to PETIVER an account of the plants, and shells, he observed there. He sent a journal of his voyage,
and

and an account of the Isle of *Chusan*; which was printed in the *Philosophical Transactions*, N° 280. vol. xxiii. p. 1201. It conveys many interesting particulars to the *English* reader, relating to the inhabitants, their fisheries, agriculture, and arts. He corrects several mistakes of Father MARTINI, and LE COMPTE; and is, I believe, the first *English* writer, who gives an accurate history of the *Tea Tree*: which, although but short, is authenticated by the latest description given us by THUNBERG, in the "*Flora Japonica*."

Besides this account of *Chusan*, I find the following papers, written by Mr. CUNNINGHAM, and printed in the *Philosophical Transactions*.

A Catalogue of Plants and Shells, collected on the Isle of *Ascension*. N° 255. vol. xxi. p. 295.

Observations on the Weather at *Emuy*, in *China*, in 1698, 1699; with the State of the Barometer. N° 256. vol. xxi. p. 323.

On the Declination of the Needle, and a
Thermometrical

Thermometrical Observation, near the Line.

N° 264. vol. xxii. p. 577.

A Meteorological Register of the Weather, in a Voyage to *China*, in 1700 ; and a Register of the Weather at *Chusan*, in *China*. N° 292. p. 1639, and 1648.

BROWN.

Besides Mr. CUNNINGHAM, there were two ingenious surgeons of the name of BROWN, resident in the *East Indies*, contemporary with PLUKENET, and PETIVER, to whom these writers were under singular obligations, for the liberality and importance of their communications, both of vegetable and animal productions, from the *East Indies*.

Mr. *Samuel* BROWN was surgeon to the Fort at *St. George*, now called *Madras*. His correspondence with Mr. PETIVER, and his collections, have been noticed before.

The name of Mr. *Alexander* BROWN occurs in many parts of PLUKENET's works.

He

He discovered several new plants, both in the *East Indies*, and at the *Cape of Good Hope* *.

G L E N.

Among the contemporaries of Mr. RAY, I am led, from private information, to mention *Andrew GLEN*, M. A. a divine, who, although his name does not occur in the writings of his time, was the friend and acquaintance of that eminent man; having probably acquired a taste for similar pursuits, from a frequent intercourse with him, at the seat of his illustrious friend, Mr. WIL-LUGHBY, near *Nottingham*. I have seen an *Herbarium*, collected by Mr. GLEN, which bears date in 1685, containing upwards of seven hundred indigenous, and two hundred exotic plants. Some of these

* Dr. PLUKENET denominated a new genus of *African* plants belonging to the *Pentandrous* class, *Eriocephalos Brunia*, in honour of *Alexander BROWN*. LINNÆUS has perpetuated the genus; but, agreeably to his rules, which do not admit of such terminations, has changed the term to *BRUNIA*, of which some species are known in the *English* gardens.

were

were collected in the tour on the continent. He afterwards travelled into *Sweden* and *Italy*; and resided some time at *Turin*, where he began another collection, which is dated 1692; but contained not more than two hundred specimens. This *Herbarium*, all circumstances considered, was not mean for the time in which it was made. Mr. GLEN was afterwards rector of *Hatherne*, in *Leicestershire*, where he died at an advanced age.

C H A P. 32.

Sloane—*Memoirs of*—*Born in Ireland*—*His strong bias to natural history in his youth*—*Travels with Dr. Tancred Robinson*—*Favourite with Sydenham*—*Attends the Duke of Albemarle to Jamaica*—*Successful in his pursuit of objects in natural history*—*Secretary to the Royal Society*—*Zealous promoter of the dispensary*—*Catalogus Plantarum Jamaicae*—*Sloane's liberal communication to Ray*—*Greatly augments his Museum by the accession of Courten's.*

S L O A N E.

AT the same period of time, lived RAY, MORISON, PLUKENET, PETIVER, SLOANE, and SHERARD, under whose countenance, and culture, the knowledge of nature received the most rapid and substantial improvement, which it had ever experienced. In this period, system had been revived and improved by MORISON, RAY, HERMAN, TOURNEFORT, and RIVINUS. In this period also, RHEDE, RUMPHIUS, PLUMIER, and SLOANE, published

Vol. II. F those

those great works in exotic botany, which have immortalized their names. This period was the close of the last century; which, as it has been called by the elegant and learned author of the "Essay on the Genius and Writings of Pope," "the Golden Age of Learning in *England*;" so has LINNÆUS named it, in his Allegorical History of the Rise and Progress of this Science, "The GOLDEN AGE OF BOTANY;" and SLOANE was one of its brightest ornaments.

Of the life of this great patron of natural science, it would be superfluous in me to attempt a detailed account; since this tribute has been paid to his memory in the "Eloge of the *French Academy*," in the "*Biographia Britannica*," the "Biographical Dictionary," and other collections of that kind, in daily use. Hence, I shall, from these publications, extract only the outlines of his life, as they are connected with, and tend to elucidate, his general character, his acquirements in natural history, and his botanical publications.

Sir *Hans* SLOANE was descended from
parents,

parents, originally of *Scottish* extraction, and was born at *Killileagh*, in the county of *Down*, in *Ireland*, April 16, 1660. His younger years were marked by a strong attachment to the works of nature. At sixteen, his studies were interrupted by ill health, in consequence of a spitting of blood, which confined him for three years. On his amendment, he studied the preliminary branches of physic in *London*, for four years; chemistry, under a pupil of the great STAHL; his favourite science, at *Chelfea* Garden, then but just established; and, young as he was, contracted during that time, an acquaintance with BOYLE and RAY. Mr. SLOANE afterwards, in company with Mr. *Tancred* ROBINSON, and another student, visited *France* for improvement. At *Paris*, he attended TOURNEFORT and DU VERNEY; and is supposed to have taken his degrees in medicine at *Montpelier*; some say, at *Orange*. He returned to *London* at the latter end of the year 1684, and became the favourite of Dr. SYDENHAM, who took him into his house, and zealously promoted his interest. In November

1684, he was elected a fellow of the *Royal Society*; and, in April 1687, entered into the college of physicians. These early advancements in the professional line, are the strongest presumptions in favour of his superior knowledge, and promising abilities. Yet these flattering prospects he relinquished, to gratify his ardour for natural knowledge.

On the 12th of September 1687, and in the 28th year of his age, he embarked for *Jamaica*, as physician to the Duke of *Albemarle*; and touched at *Madeira*, *Barbadoes*, *Nevis*, and *St. Kitt's*. The Duke dying on the 19th of December, soon after their arrival at *Jamaica*, Dr. SLOANE's stay on the island did not exceed fifteen months. During this time, however, such was his application, that, in the language of his *French* eulogist, had he not converted, as it were, his minutes into hours, he could not have made those numerous acquisitions, which contributed so largely to extend the knowledge of nature; while they laid the foundation of his own future fame and fortune.

Here I am led to observe, that several
circumstances.

circumstances concurred respecting the voyage of Dr. SLOANE to *Jamaica*, which rendered it peculiarly successful to natural history. He was the first man of learning, whom the love of science alone had led from *England*, to that distant part of the globe; and, consequently, the field was wholly open to him. He was already well acquainted with the discoveries of the age. He had an enthusiasm for his object, and was at an age, when both activity of body, and vivacity of mind, concur to vanquish difficulties. Under this happy coincidence of circumstances, it is not strange that Dr. SLOANE returned home with a rich harvest. In fact, besides a proportional number of subjects from the animal kingdom, he brought from *Jamaica*, and the other islands they touched at, not fewer than 800 different species of plants. A number, very far beyond what had been imported, by any individual into *England* before.

Dr. SLOANE returned from his voyage on the 29th of May 1689; and, fixing in *London*, soon became eminent. He was chosen physician to Christ's Hospital, in

1694. In the preceding year, he had been elected secretary to the *Royal Society*, and had revived the publication of the *Philosophical Transactions*, which had been interrupted from the year 1687. This office he held till 1712, and was then succeeded by Dr. HALLEY.

In 1695, Dr. SLOANE married *Elizabeth*, daughter of Alderman *Langley*, of *London*. She died in 1724. She brought him, besides a son, and daughter, who died young, two other daughters, who survived, and were advantageously married; the eldest to *George Stanley*, Esq; of the county of *Hants*; and the younger to Lord *Cadogan*.

It was about this time that he became an active member of the college, in promoting the plan of a dispensary for the poor; which was at length carried into effect. The feuds excited on this occasion gave rise to the celebrated satire from Dr. GARTH.

It was not till the year 1696 that Dr. SLOANE published the *Prodromus* to his History of *Jamaica* Plants, under the title of "CATALOGUS PLANTARUM QUÆ IN
INSULA

INSULA JAMAICA SPONTE PROVENIUNT,
*vel vulgo coluntur; cum earundem Synonymis
 et Locis natalibus; adjectis aliis quibusdam
 quæ in Insulis Maderæ, Barbados, Nieves, et
 Sancti Christophori nascuntur: seu Prodrromi
 Historiæ Naturalis Jamaicæ Pars Prima.*"
 8°. 1696. pp. 232. *Præter Indicem valde
 copiosum Nominum et Synonymorum.*

This volume, intrinsically valuable as it is, may yet be considered as only the nomenclature, or systematic index to his subsequent work. The arrangement of the subject (and which was strictly followed in "The History,") is nearly that of Mr. RAY; vegetables being thrown into twenty-five large natural classes, or families. Among botanists of that time, generical characters had not attained any remarkable precision; and SLOANE, like PLUKENET, was little farther anxious, than to refer his new plants to some genus already established, without a minute attention to the parts of fructification, farther than as they formed part of the character drawn from habit: yet with this defect, the figures and descriptions of SLOANE proved sufficiently accurate to en-

able his successors to refer almost all his species, to the appropriate places in the system of the present day.

By this neglect of constructing *genera*, SLOANE nevertheless threw into the hands of PLUMIER the grateful opportunity which he embraced, of naming the plants of his investigations after celebrated botanists. In justice, however, to PLUMIER, it has been before observed, that he was not parsimonious in the distribution of these favours, to the merit of *Englishmen*.

It is worthy of observation, that among these classes, there are only two plants belonging to the *Umbelliferous* tribe, and but one genus of the *Asperifoliæ*, namely, the *Heliotropium*. The ferns, on the other hand, are very numerous all over the *West India* islands. SLOANE has above one hundred species; and PLUMIER, a few years afterwards, detected many more.

In this volume, however small in bulk, yet vast in labour, there is a circumstance much to the credit of SLOANE, which must be obvious to every intelligent naturalist. It is the care which the author has taken to

consult every possible resource, in order to discriminate his plants, and avoid an unnecessary multiplication of species, by describing that as new, which was before known. So numerous a set of synonyms had never been inserted in any local catalogue; and SLOANE greatly enhanced its value, by a most commendable addition; having, with incredible labour, referred to every traveller of note for all the vegetables renowned for utility in medicine, arts, or œconomy. In this instance, it is much to be regretted that so praise-worthy an example has not been more frequently imitated by succeeding botanists.

Before I dismiss this volume, I must mention an instance of the liberality of its author, in allowing Mr. RAY the free use of his manuscripts of the *Jamaica* plants, on the publication of the third volume of his "History," in 1704. Accordingly, we find all SLOANE's new plants, with the descriptions at large, inserted in that work. He also communicated a list of *English* plants, which he had observed spontaneously growing in *Jamaica*. This was printed in
the

the second edition of the *Synopsis*, and continued by DILLENIUS in the third.

Dr. SLOANE began early to form a museum, and it was, by the collections made in his voyage, become considerable; but the era of its celebrity was not till 1702, when it received the augmentation of Mr. COURTEN's valuable stores. United by similar taste, Dr. SLOANE had formed, with this gentleman, an early and strict friendship; and a perpetual interchange of communications, and good offices, had subsisted between them; of which Sir *Hans* himself bears public testimony in his writings. It is not possible, at this time, to ascertain the extent of Mr. COURTEN's collection; but it is sufficiently certain that it was very ample: the acquisition of it added new ardour and diligence to our naturalist, in the augmentation of it. He has himself exhibited a general statement of the contents of his museum, twenty-two years after its enlargement by the above-mentioned collection. By this it appears, that the subjects of natural history alone, exclusive of two hundred volumes of preserved plants, amounted to
more

more than 26,200 articles. They were afterwards augmented to upwards of 30,600; as may be seen by "A General View of the Contents," published a year before his death. —And here I cannot but observe, that the curious are under singular obligation to the author of the article COURTEN, in the fourth volume of the new edition of the *Biographia Britannica*, who has, with great labour, brought to light so many interesting memoirs relating to Mr. COURTEN, and his family. His truly laborious researches have done equal justice to that gentleman, and to Sir *Hans* SLOANE, by rescuing the history of their connexion from great misrepresentation. Hence we learn, that Dr. SLOANE, as executor to his friend, so far from acquiring the accession of Mr. COURTEN's museum *at a dear rate*, as had been represented in the preceding edition, obtained it at a price greatly under its original, and real value.

C H A P. 33.

Continuation of Sloane—Publishes his voyage to Jamaica—His discoveries excite emulation—Corresponds with Ray—Elected member of the Royal Academy of Paris—Chosen physician to Queen Ann—Created a baronet—Physician general to the army—President of the College of Physicians—and president of the Royal Society—Retires to Chelsea in 1741—His death and character—List of his numerous memoirs in the Philosophical Transactions.

S L O A N E.

IN the year 1701, Dr. SLOANE was incorporated doctor of physic at Oxford; and was associated member of several academies on the continent. In 1707, he published the first volume of his history, under the following title:

“ A VOYAGE to the Islands *Madeira*,
 “ *Barbadoes*, *Nevis*, *St. Christopher’s*, and
 “ *Jamaica*; with the Natural History of
 “ the Herbs and Trees, four-footed Beasts,
 “ Fishes, Birds, Insects, Reptiles, &c. To
 “ which

“ which is prefixed an Introduction, where-
“ in is an Account of the Inhabitants, Air,
“ Waters, Diseases, Trade, &c. of that
“ Place ; with some Relations concerning
“ the neighbouring Continent and Islands
“ of America.” Vol. i. 1707. fol. pp.
254. tab. 156.

This volume is dedicated to the queen. The introduction contains 154 pages, and is replete with matter of an interesting nature, and evidently displays the great pains the author took to collect materials for this work. It comprehends a general account of the discovery of the *West Indies*, and of the island of *Jamaica* in particular: the geography, the climate, and soil ; food, manners, and economy of the various inhabitants: description of a tour the author made to various parts of the country, and especially to the ruins of *Sevilla*, with an account of the church built by *Peter Martyr* : a list of more than fifty European vegetables, principally of the culinary tribe, cultivated in the gardens of *Jamaica*. He concludes with an history of the diseases, and the detail of many cases which came under his
own

own observation. Then follows the journal of the voyage ; with ample descriptions of the marine animals observed in the course of it : the plants observed at *Madeira*, several of which are figured in the work itself : observations of the like kind made at *Barbadoes*. The remainder of the volume contains a methodical arrangement, and description, of all the submarine, and herbaceous plants, natives of the island ; amounting to 550 and upwards. Very few synonyms are here introduced ; but references, in general, made to the copious collection of them in his “ Catalogue.” To each plant the author has subjoined, from medical authors, and from travellers, the most ample account of their several uses.

The *second volume* was not published till the year 1725, and was dedicated to the king. The reasons of this delay are assigned in the introduction, and were, principally, the care, the arrangement, and description of his museum. The accession of Mr. COURTEN’S collection has been remarked above ; and that of PETIVER, in 1718, gave Sir *Hans* much employment. PETI-

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VER had amassed a greater quantity of the productions of nature, than any man before him: but he had not preserved them with a care equal to the zeal with which he acquired them; and it demanded extraordinary diligence to recover them from the injury they had sustained. It is in the introduction to this volume that Sir *Hans* gives a general inventory of his Library, and Museum, as it stood in the year 1725, which has been noticed before; and, by the comparison of which with later estimates, it appears how greatly he increased it after that time.

This second volume comprehends five hundred pages, and completes the vegetable part, and the animal kingdom. The new plants are nearly all figured. The plates are continued to the number of 274. The last forty belong to the animals, of which, some of all the classes, the *Mammalia* excepted, are here exhibited.

To the curious botanist, it will be observable, that out of 800 vegetables, described in these volumes, above 100 are *Ferns*; and that of the others, more than 250 species are of the *arboreſcent* kind.

Subsequent

Subsequent voyagers have established it as a fact, that in the warmer and intertropical regions, this latter class constitutes, in a general way, the third part of the vegetable productions of nature. Abundantly the reverse of this takes place in temperate and cold climates.

In these volumes Sir *Hans* has introduced all his quotations at length from the books of travels mentioned in the "Catalogue," to illustrate the various uses of each vegetable. They exhibit a proof of the author's industry, which, I conceive, it is difficult to parallel in any other work. The tables, which were principally engraved by *Vander Gucht*, although on a large scale, yet having the disadvantage of being done from dried specimens, want those natural attitudes which grace more modern performances. In this volume, Sir *Hans* takes various occasions to defend himself from the strictures of *PLUKENET*; and, in his turn, criticises that author, though in a language much less censurable than that of the *Mantissa*.

The voyage of Dr. *SLOANE* was productive of much subsequent benefit to science,

by exciting an emulation, both in *Britain* and on the continent. Sir *Arthur* RAWDON, upon viewing his splendid collection, sent *James* HARLOW, a skilful gardener, to *Jamaica*, who returned with a ship almost laden with plants, in a vegetating state; and with a great number of dried specimens. Of the latter, SLOANE had all such as were new, before he published his first volume. Many of the living plants succeeded in the garden of Sir *Arthur*, at *Moyra*, in *Ireland*; and many were distributed into the garden of the Bishop of *London*, at *Fulham*; Dr. UVEDALE's, at *Enfield*; the *Chelsea* Garden; and especially into that of her Grace the *Duchess* of BEAUFORT, at *Badminton*, in *Gloucestershire*: the botanic gardens of *Amsterdam*, *Leyden*, *Leipsic*, and *Upsal*, shared these rarities. TOURNEFORT sent Dr. GUNDELSCHMEYER, his associate in his oriental journey, into *England*, to view SLOANE's plants; and this gave occasion to PLUMIER's expedition into the *Caribbee* Islands.

Dr. SLOANE entered very early into correspondence with Mr. RAY. His first let-

ter bears date in 1684; and DERHAM's collection contains thirteen. Most of them have reference to botanical subjects, while they evidence the mutual friendship of the writers; a circumstance indeed very pathetically expressed by Mr. RAY, in the last letter he ever wrote; which was but a few days before his death, being dated Jan. 7, 1704.

In 1708, he was elected a foreign member of the *Royal Academy of Sciences at Paris*; a distinction of the highest estimation in science; and the greater at that time, as the *French* nation was at war with *England*, and the queen's consent was necessary to the acceptance of it. He was frequently consulted by Queen *Ann*, who, in her last illness, was blooded by him. On the accession of *George I.* he was created a baronet; being the first *English* physician on whom an hereditary title of honour had been conferred. He was appointed Physician General to the Army, which office he enjoyed till 1727, when he was made Physician to King *George II.* He gained the confidence of Queen *Caroline*, and prescribed for the royal family till his death.

In

In 1719, Sir *Hans* was elected President of the College of Physicians, which station he held sixteen years, and during that time he gave signal proofs of his zeal for the interests of that body.

On purchasing the manor of *Chelsea*, he gave the fee simple of the *Botanical Garden* to the Company of Apothecaries, on conditions, which will more properly be specified in a subsequent part of this work.

On the death of Sir *Isaac* NEWTON, in 1727, Sir *Hans* SLOANE was advanced to the presidency of the Royal Society of *London*, the interest of which no man had ever more uniformly promoted. He made the Society a present of 100 guineas, and a bust of the founder, King *Charles* II. Thus, in the zenith of prosperity, he presided, at the same time, over the two most illustrious scientific bodies in the kingdom: and, while he discharged the respective duties of each station, with credit and honour, he also enjoyed the most extensive and dignified employment as a physician. He occupied these important stations from the year 1719 to 1733, when he resigned the presidency of the College of Physicians; and, in 1740, at the age of

fourſcore, that of the *Royal Society*; having formed the reſolution of withdrawing from the buſtle of life into retirement at *Chelſea*. In 1741, he removed his Library, and Muſeum; and, on the 12th of May, fixed at his new manſion, where, occaſionally viſited by his friends, and by all men of diſtinction from abroad, he paſſed in ſerenity, and in the conſtant exerciſe of benevolence, the laſt twelve years of his life, which terminated Jan. 11, 1752, O. S.

Sir *Hans* SLOANE was tall, and well made in his perſon; eaſy, polite, and engaging in his manners; ſprightly in his converſation; and obliging to all. To foreigners he was extremely courteous, and ready to ſhew and explain his curioſities to all who gave him timely notice of their viſit. He kept an open table once a week for his learned friends, particularly thoſe of the *Royal Society*. In the aggregation of his vaſt collection of books, he is ſaid to have ſent his duplicates, either to the *Royal College of Phyſicians*, or to the *Bodleian Library*.

He was governor of almoſt every hoſpital

tal in *London* ; and to each, after having given an hundred pounds in his life-time, he left a more considerable legacy at his death. He was ever a benefactor to the poor, who felt the consequences of his death severely. He was zealous in promoting the establishment of the colony of *Georgia*, in 1732 ; and formed, himself, the plan for bringing up the children in the Foundling Hospital, in 1739.

In the exercise of his function as a physician, he is said to have been remarkable for the certainty of his prognostics ; and the hand of the anatomist verified, in a signal manner, the truth of his predictions, relating to the seat of diseases. By his practice, he not only confirmed the efficacy of the *Peruvian Bark* in intermittents, but extended its use in fevers of other denominations, in nervous disorders, and in gangrenes and hemorrhages. The sanction he gave to inoculation, by performing that operation on some of the royal family, encouraged, and much accelerated its progress throughout the kingdom. His ointment for the *Leu-*

coma has not yet lost its credit with many reputable names in physic.

Possessed of affluence, entirely the reward of his own merit, Sir *Hans* SLOANE enjoyed, through a long life, every satisfaction that science could bestow; and, in the *British Museum*, has not only erected the noblest monument to his own fame, but a temple also to the culture of learning and of science, which will transmit his donation to future ages, as a signal instance of the munificence of a private individual.

That the list of Sir *Hans* SLOANE's writings may be complete, I shall, in conformity with my general plan in other instances, recite those papers which were printed in the *Philosophical Transactions*. Many of these convey such interesting literary information, and abound with such facts and observations, as will long give them a value, with all who remember the eminent abilities and services of the author, and have a relish for the like researches.

The first of Dr. SLOANE's papers in the *Philosophical Transactions*, is, a Description
of

of the *Jamaica* Pepper Tree (*Myrtus Pimenta* Lin.); with an account of curing the Berries; and of the Oil distilled from them, commonly sold for *Carpobalsamum*. N° 192. Vol. xvii. p. 462; accompanied with a figure.

A Description of the Wild Cinnamon Tree, falsely called *Cortex Winteranus* (*Winterania Canella* Lin.) very early celebrated, by the first writers on the West Indies, as a medicine for the Scurvy. N° 192. Vol. xvii. p. 465.

A Description of the Silver Pine (*Protea Argentea* Lin.); and of another Coniferous Tree; both from the *Cape of Good Hope*. N° 198. Vol. xvii. p. 664.

Proofs of the Poisonous Effects of Dog's Mercury (*Mercurialis Cynocrambe*, Lin.) N° 203. Vol. xvii. p. 876.

An Account of the true *Cortex Winteranus* (*Drimys Winteri* Lin. Sup. p. 269.) from the *Straights of Magellan*. Dr. SLOANE observes, that the sensible qualities of this bark are so similar to those of the *Canella*, that he judges they may safely

be considered as *succedanea* to each other. N° 204. Vol. xvii. p. 922 ; with a figure of a small branch.

An Account of the Coffee Shrub, from the first specimen brought over from *Arabia Fœlix* by Mr. CLIVE ; with a figure, and an account of the culture of the shrub. N° 208. Vol. xviii. p. 65.

An Account of the Bird called the *Condor* of *Peru*, from the relation of Captain *Strong*, who had met with one on the coast of *Chili*, which measured 16 feet from tip to tip of the wings. This is one of the earliest accounts of this bird, after that of *De Laet* ; concerning the strength and rapacity of which, voyagers have related incredible stories. LINNÆUS names it *Vultur Gryphus*. N° 208. Vol. xviii. p. 61.

An Account of an Earthquake which happened during Dr. SLOANE'S stay on the Island of *Jamaica*, Feb. 19, 1687-8. With a Note concerning the great Earthquake of June 7, 1692, which destroyed *Port Royal*. N° 209. Vol. xviii. p. 80, 81.

Remarks on a vulgar Opinion that the
swallowing

swallowing of Stones assists Digestion ; occasioned by the case of a man who had swallowed 200 pebbles. N° 253. Vol. xix. p. 192.

Observations on four Kinds of *American* Fruits, thrown on the shores of the North-west parts of *Scotland*. Three of these were known by the author to be natives of *Jamaica*.—1. The Cocoons, or the Pods of the *Phaseolus Maximus*, &c. *Hist. Jam.* i. p. 178. (*Mimosa Scandens* Lin.)—2. The Horse Eye Bean ; *Phaseolus Brasiliensis*, &c. *Hist. Jam.* i. p. 178. (*Dolichos Pruriens* Lin.)—3. The Ash-coloured Nickar Tree ; *Lobus Echinatus*, &c. *Hist. Jam.* ii. p. 40. (*Guilandina Bouduc* Lin.)—4. The *Fructus Orbicularis sulcis nervisque distinctus*, C. B. *pin.* 405. *b.* iv. N° 222. Vol. xix. p. 298. These, and several other kinds, which are also found plentifully on the coast of *Norway*, are thought by SLOANE to have been brought by currents, through the *Gulph of Florida*, into the *North American* ocean. The appearance of these fruits on the Northern shores of *Europe*, had been alledged by

by some as proofs of the existence of a North-east passage.

An Account of the Fossil Tongue of a *Pastinaca Marina* (*Raia Pastinaca* Lin.) dug up in *Maryland*; with a Comparison of it with the recent Tongues of the *Thornback*; illustrated with many figures. N° 232. Vol. xix. p. 674.

Remarks on *Dampier's* Medicine for the Bite of a Mad Dog, specifying, that it was not a *Jew's Ear Fungus*, but the *Lichen Cinereus Terrestris* of RAY. N° 237. Vol. xx. p. 52.

Notes on a Paper, written to recommend the *Ipecacuanha*, as an infallible Remedy in Dysenteries. Dr. SLOANE recommends it, but speaks in a more moderate stile concerning its efficacy. He shews that it was first mentioned by an anonymous *Portuguese*, under the name of *Ipecaya*, or *Pigaya*. See *Purchas's Pilgr.* vol. iv. N° 238. Vol. xx. p. 78.

An Account of the Contents of a *China Cabinet*, containing Instruments and Natural Curiosities; presented to the Royal Society

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ciety by Mr. BUCKLEY, Surgeon at *Fort St. George*. N° 246—250. Vol. xx. and xxi.

An Account of the *Tartarian Lamb*, *Agnus Scythicus*, or *Barometz*, heretofore imposed on the credulous as a kind of Zoophyte, or vegetating Animal. On examination, it proves to be the lower part of the *stipes*, or root, protruding above ground, of a large species of Fern, judged by some to be the *Polypodium Aureum*, fashioned into the rude shape of the animal. It is naturally cloathed with a *lanugo*, or down, of a yellowish chesnut colour, called *Pocosempie* in *China* and the East, celebrated as an astringent, both internally and externally used; with a figure of the pretended animal. N° 247. Vol. xx. p. 461.

An Account of the *Nux Pepita*, or *St. Ignatius' Bean* (*Ignatia Amara* Lin. Sup. 149); a simple in common use in the *Philippine Islands*, as a tonic medicine. N° 249. Vol. xxi. p. 44.

An Account of some Seeds, used on the coast of *Malabar* and *Coromandel*, for clarifying

ing Water. N° 249. Vol. xxi. p. 44. There can be little doubt that this effect arises from the mucilaginous quality.

A Description, with the Figure, of a Misseltoe, or *Epidendrum*, called Wild Pine, in *Jamaica*, (*Tillandsia Utriculata* Lin.) the leaves of which form a reservoir for water, of great use in dry seasons. With Observations on the Oeconomy of several other Vegetables in the Propagation of the Species. N° 251. Vol. xxi. p. 113.

Hints for the Improvement of Gardening, to be drawn from due attention to the nature of the soil and climate, &c. of the plants. N° 251. Vol. xxi. p. 119.

The Method used by the *Chinese* to make Gold Thread, by gilding paper on one side with leaf gold, cutting it into long pieces, and weaving it into their silks, which makes them, with little or no cost, look very rich and fine. N° 251. Vol. xxi. p. 71.

A Limestone Marble, discovered in *Wales* by Dr. LHWYD, determined by Dr. SLOANE to be the *Astroites* of WORMIUS. N° 252. Vol. xxi. p. 188. (Since called *Corallia Astroitæ*.)

Astroite.) It is native in the seas of *Jamaica*.

The Case of a Dropsy of the *Ovarium*.
N° 252. Vol. xxi. p. 150.

The Mischief of swallowing Plumb Stones exemplified, in the case of a man, in whose bowels was found a plumb stone inclosed in the center of a *calculus ægagropila*, which measured six inches in circumference, and weighed one ounce and an half. N° 282. Vol. xxiii. p. 1283.

An Account of the Mosses, or Turf Bogs, in the North of *Ireland*. N° 330. Vol. xxvii. p. 296.

Remarks on Mr. S. GRAY'S Account of the Fossils of *Reculver Cliff*; tending to prove that the wood found there is that of the Oak. N° 368. Vol. xxii. p. 762.

An Account of a Pair of very extraordinary large Horns, found in a cellar at *Wapping*; with figures. Dr. Hook suspected they were the horns of an animal, described by NIEUHOF; under the name of *Sukotyro*, as it is called by the *Chinese*. Sir Hans conjectures, they might belong to the *Taurus carnivorus* of *Agatharchides*; of which he traces the
history

history through the writings of the antients; but thinks it very uncertain whether this is the same animal with the *Sukotyro*. N° 397. Vol. xxxiv. p. 222.

An Account of such Specimens of Elephants Teeth, and Bones, as are repositied in the Museum of Sir *Hans SLOANE*; with figures. N° 403. Vol. xxxv. p. 457. This was introductory to

Remarks on divers Accounts of Teeth, and Bones, found under ground. Ib. N° 404. p. 497. In which the curious reader meets with much information.

An Account of the Symptoms arising from eating the Seeds of *Henbane*; with Remarks. N° 429. Vol. xxxviii. p. 99.

Conjectures on the fascinating Power attributed to the *Rattle-snake*. N° 433. Vol. xxxviii. p. 321.

Answer to the *Marquis of CAUMONT*'s Letter, relating to an extraordinary *Calculus* of the Bladder. N° 450. Vol. xl. p. 374. The stone is figured in the *Transactions*. In shape, it resembled, in some measure, a globular *pyrites* beset with long, blunt, and ramified points. N° 450. Vol. xl. p. 374.

Answer

Answer to Mr. POWEL, concerning the Case of a Gentlewoman, who voided with her Urine, hairy, crustaceous Substances; informing him of similar Cases, and hinting a Method of Cure. N° 460. Vol. xli. p. 703.

The Description, with a Figure, of a curious Sea Plant; *Frutex Marinus flabelliformis cortice verrucoso obductus*. Doodii. Raii Syn. ed. 3. p. 32. (*Gorgonia Verrucosa* Lin.) N° 478. Vol. xlv. p. 51. Small specimens have been found on the shores of *Cornwall*; but it has elsewhere grown to the height of four feet.

Accounts of the pretended Serpent Stone, called *Pietra de Cobra de Cabelos*; and of the *Pietra de Mombazzo*, or the Rhinoceros Bezoar: with the figure of a Rhinoceros with a double Horn. N° 492. Vol. xlvi. p. 118.

An Account of Inoculation, by Sir *Hans SLOANE*, Bart. given to Mr. RANBY to be published anno 1736. Vol. xlix. p. 516. Curious as a record of the introduction of Inoculation into *England*; and valuable, as a proof, not only of the candour, and openness of the author, but, as exhibiting a simplicity

plicity in the management, which it would have been happy for society, had it been universally adopted by succeeding practitioners *.

* The name of SLOANE was given by PLUMIER to an arborescent plant of the *Polyandrous* class, first described by MARCGRAAVE. It is so nearly allied to the Chestnut tree, that MILLER, in his Dictionary, refers it to that genus. LINNÆUS, however, on the credit of LOEFLING, preserves PLUMIER's appellation, *Sloanea*; and has added another species from CATESBY's *Carolina* Plants.

C H A P. 34.

Royal Society—*Its influence in promoting natural history.*

Chelsea Garden—*Herborizations—Endowed by Sir Hans SLOANE—Highly advantageous to botany—Demonstrators—Rand—Miller.*

Celebrated gardens after the Revolution—Hampton Court—Badminton—Duke of Argyle's—Uvedale's.

Bishop Compton—*brief account of—a patron of botany—Himself a real botanist—His fine garden at Fulham—Useful to Ray, Plukenet, and Petiver.*

Doody—*Not an author—Cryptogamia class greatly enlarged by him.*

R O Y A L S O C I E T Y.

AMONG those public institutions, which in a singular manner invigorated, in this period, the spirit of natural history in *Englana*, the ROYAL SOCIETY of *London* claims the most distinguished notice. In its design, as in its progress, it was the fostering parent, and guardian, of

natural knowledge. The collection of a museum of natural curiosities, was one of the objects in view; and such was the respectability of the society, both as a body, and in its individuals, that, through its means, the whole nation may be said to have amply contributed to its emolument. All new objects of curiosity; all new books, at home and abroad; new discoveries throughout all nature, incessantly offered themselves; and thus, not only tended to remove the prejudices that too strongly prevailed against the studies of nature in that age, but, in the event, excited a passion in the public, which was so successfully exerted in improving, not natural history alone, but real and useful science at large, that it will not be considered as an exaggerated encomium to assert, that more effectual advancement was made by the influence of this illustrious body in one century, than had before taken place from the earliest ages. Botany shared these benefits; and the early volumes of the *Transactions* abound in records of newly-discovered vegetables, and of newly-discovered proper-

ties in that part of the creation. Experiments of various intention were instituted by this learned body. Under their auspices, the anatomy, and philosophy of plants, were illustrated by GREW, and improved by HALES. Such memoirs in the *Philosophical Transactions* as more directly relate to my object, or were written by those whom I commemorate, have been already, or will be, briefly noticed in the course of these pages.

CHELSEA GARDEN.

I proceed further to observe, that, among the assistances which the science has received from public bodies of men, must be mentioned also that which sprung from the Physic Garden, founded by the Company of Apothecaries at *Chelsea*; an institution which reflected the highest honour on that respectable society. This took place in the year 1673, although the inscription over the entrance imports, that the Garden was not effectually constructed till the year 1686.

From the time of JOHNSON, the editor of GERARD, a custom had prevailed among the *London* Apothecaries to form a society

each summer, and make excursions to investigate plants. The *Itinera*, published by JOHNSON, may be considered as the fruit of such expeditions in his day. But they had been discontinued, as I apprehend, for many years. After the foundation of the Garden, this laudable practice was revived, and the associations fixed to stated periods, and put under regulations; the herborizings being now distinguished into private and general. The first, intended to excite a taste for botany among the apprentices of the Company, begin on the second Tuesday of April, and are held monthly, on the same day, till September inclusively, in some of the villages in the immediate neighbourhood of *London*. At the end of the season, the premium of a copy of RAY's *Synopsis*, (since changed for Mr. HUDSON's *Flora Anglica*) is presented to the young man who has been the most successful in discovering and investigating the greatest number of plants. The general herborization is annual only, in July; when the Demonstrator, and others of the Court of Assistants, belonging to the Company, make an excursion to a considerable distance from
the

the city, collect the scarce plants, and dine together near *London*; on which occasion they are frequently accompanied by other gentlemen, who are fond of the same pursuits.

This institution at *Chelfea* was rendered more stable, and received permanency, from the liberality of Sir *Hans SLOANE*; who, soon after his purchase of the manor, in 1721, gave the freehold of the ground, near four acres, to the Company, on condition that the demonstrator should, in the name of the Company, deliver annually to the *Royal Society* fifty new plants, till the number should amount to 2000, all specifically different from each other; the list of which was published yearly, in the *Philosophical Transactions*. The first was printed in the year 1722, and the catalogues have been continued till the year 1773, at which time the number 2550 was completed. These specimens are duly preserved in the archives of the Society, for the inspection of the curious.

Under excellent superintendants, *Chelfea Garden* has flourished; having been excelled, perhaps, by no public institution of the

kind in *Europe*, for the number of curious exotics it contains. Of this, the Dictionary, and Figures of the late Mr. MILLER, afford sufficient proofs. The advantages, indeed of this institution are obvious; and even Sir *Hans SLOANE* himself acknowledged his obligations to it in the early part of his life.

In justice to the memory of those who have eminently filled the place of lecturers, and demonstrators, in the *Chelfea Garden*, I recite their names, from the time of Sir *Hans SLOANE*'s donation; not being able to ascend above that period.

<i>Isaac RAND</i> , apothecary, F.R.S.	} 1722—1739
<i>Joseph MILLER</i> , apothecary,	1740—1746
<i>John WILMER</i> , M.D.	1747—1764
<i>William HUDSON</i> , F.R.S.	1765—1769
<i>Stanesby ALCHORNE</i> ,	1770—1772
<i>William CURTIS</i> ,	1773—

Mr. *RAND* published, in 1730, in 8°. *Index Plantarum Officinalium Horti Chelfejani*. The list contains 518 plants of the *Materia Medica*; and specifies the part of each used in physic. The same author published

published *Horti Chelfejani Index Compendiarius*. 1739. 8°*.

Joseph MILLER published, “*Botanicum Officinale*; or, A Compendious Herbal: giving an Account of all such Plants as are now used in the Practice of Physic; with their Descriptions and Virtues.” 8°. 1722. pp. 466. The plants are alphabetically arranged according to the officinal names. The Summary of the Virtues is, in most instances, a translation from the *Pharmacologia* of DALE.

Except in the *Orthotonia*, subjoined to Skipton’s edition of *Pharmacopœia Bateana*, the *Botanicum Officinale* of MILLER is the only book on the subject, not of very modern date, in which the student is assisted in the accentuation of the *Latin* names of plants; but, from the confined nature of the plan in these works, the benefit is not extensive.

Among the favourable circumstances which contributed to distinguish, or, I might

* *Houston* gave the name of RAND to a West India shrub of the *Pentandrous* class, figured by *Slane*: and it is retained by LINNÆUS.

say, helped to form, the *Golden Age of Botany*, before alluded to, was that growing taste for the cultivation of exotics, which sprung up among the great and opulent, after the happy return of internal peace by the Restoration. *Archibald Duke of ARGYLE* is said to have been one of the first, who was conspicuous for the introduction of Foreign Trees, and Shrubs. Mr. *EVELYN*, both by his writings, and example, encouraged the same taste. He cultivated a garden and plantations at *Saye's-Court*, near *Deptford*; and his *Sylva* remains a monument of his learning, and patriotic intentions, which cannot soon be superseded.

After the Revolution, the Royal Gardens at *Hampton-Court* were rich in fine plants, and that at *St. James's* of no inconsiderable note, if we may guess by the many new plants *PLUKENET* received from it. The *Duchess of BEAUFORT* had a garden richly stored at *Badminton*, in *Gloucestershire*. Dr. *Henry COMPTON*, Bishop of *London*, another at *Fulham*; and many private gentlemen vied with each other, in these elegant and useful amusements. The gardens of
Dr.

Dr. UVEDALE, of *Enfield*; of Mr. DU BOIS, an *East India* merchant; of Mr. COURTEN, and others, were of the first notice; and afforded much assistance to the labours of RAY, PLUKENET, and PETIVER. The growing commerce of the nation, the more frequent intercourse with *Holland*, where immense collections from the *Dutch* colonies had been made, rendered these gratifications more easily attainable than before; and, from all these happy coincidences, science in general reaped great benefit.

BISHOP COMPTON.

Among those I have just enumerated, Dr. Henry COMPTON, Bishop of *London*, claims peculiar notice; since we learn from Mr. RAY, and PLUKENET, that he joined to his taste for gardening, a real and scientific knowledge of plants; an attainment not usual among the great, in those days.

This eminent prelate, so distinguished for his zeal in the cause of Protestantism, and for the active part he took in promoting the Revolution, was born in the year 1632. He was entered a nobleman of
Queen's

Queen's College, *Oxford*, in 1649, where he continued about three years ; and afterwards travelled abroad. After the Restoration, he entered into the army ; but very soon quitted it for the church. In the year 1666, he became Rector of *Cottenham*, in *Cambridgeshire* ; and, after possessing various emoluments in the church, was made Bishop of *Oxford*, in the year 1674 ; and the year after, translated to the See of *London*, which he held to the time of his death, in the year 1713, at the age of 81.

In his retirement at *Fulham*, Bishop COMPTON amply gratified himself in his favourite amusement. The circumstances of the times, above mentioned, aided by his own zeal, and a residence of thirty-eight years on the same See, enabled him, finally, to collect a greater variety of Green-house rarities, and to plant a greater variety of hardy Exotic Trees, and Shrubs, than had been seen in any garden before in *England*.

This repository was ever open to the inspection of the curious and scientific ; and we find RAY, PETIVER, and PLUKENET, in numerous instances, acknowledging the
assistances

assistancess they received from the free communication of rare and new plants out of the garden at *Fulham*. Many of PLUKENET's figures were engraved from specimens out of the Bishop's garden ; and some from a book of drawings in his possession, quoted under the name of *Codex Comptoniensis*.

In the second volume of RAY's History of Plants, p. 1798, we find a Catalogue of some new species of Trees and Plants, observed by the author in this garden. These were principally of *North American* growth. The reader who is desirous of seeing a more ample account of the garden at *Fulham*, is referred to a relation of the state in which it was found in the year 1751, written by the late Sir *William* WATSON, and printed in the 47th volume of the *Philosophical Transactions*.

D O O D Y.

If to any man in his day, not professedly an author on the subject, extraordinary praise is due, for discoveries in the indigenous botany, it must belong to Mr. *Samuel*

DOODY,

DOODY, the contemporary and friend of RAY, PLUKENET, and SLOANE, who all bear testimony to his merit. I regret the want of more information relating to this assiduous man; of whom I can only say, that he was born in *Staffordshire*, was an apothecary in *London*, and a fellow of the *Royal Society*. He was chosen superintendent, and demonstrator of the Garden at *Chelfea*; an office he held for some years before his death, which took place in 1706.

As Mr. DOODY lived in *London*, and there is room to believe he was in very considerable business, his excursions could not ordinarily extend far from that city. In its neighbourhood, his diligence was beyond any other example. He struck out a new path in botany, by leading to the study of that tribe, which comprehended the imperfect plants, now called the *Cryptogamia* class. In this branch he made the most numerous discoveries of any man in that age, and in the knowledge of it stood clearly unrivalled. The early editions of RAY's *Synopsis* were much amplified by his labours; and he is represented by Mr. RAY, as a man
of

of uncommon sagacity in discovering and discriminating plants in general. The learned successor of *Tournefort*, M. JUSSEU, speaks of him as *inter Pharmacopæos Londinenses sui temporis Coryphæus*. In truth, he was the DILLENIIUS of his time.

There is a long list of rare plants, many of them new, and first discovered by Mr. DOODY, published in the second edition of RAY's *Synopsis*, accompanied with observations on other species. I also find, "The Case of a Dropsy of the Breast," written by him, and printed in the *Philosophical Transactions* in 1697. N° 224. Vol. xx. p. 77.

C H A P. 35.

Llhwyd — *Memoirs of—A celebrated antiquary—
and naturalist—His Lythophylacium—Corre-
spondence with Ray—His Archæologia—List
of his papers in the Philosophical Transactions.*
Lawson — *a skilful botanist—His list of North of
England plants.*
Dr. Tancred Robinson — *the intimate friend of
Ray—His communications to the Royal So-
ciety.*
Dodsworth.

L L H W Y D.

EDWARD LLHWYD was one of the
most learned and celebrated antiquaries
of the last century, and a skilful naturalist.
According to Mr. *Wood*, he was the son of
Edward LLHWYD, or *Lloyd*, of *Kidwell*, in
Carmarthenshire; but, as *Boyer* relates, of
Charles Llhwyd, of *Lanvordia*, in *Salop*, Esq.
He was born in 1670, and became a stu-
dent of *Jesus College* in 1687, of which
Dr. *PLOT* was a member, and under whom
Mr. LLHWYD was in a great measure edu-
cated.

cated. On the resignation of Dr. PLOT, he succeeded him as keeper of the *Ashmolean* Museum, about 1690. He travelled repeatedly all over *Wales*; went through the North of *Scotland*; into *Ireland*, in which kingdom he seems to have made some considerable abode. He spent some time in *Cornwall*, and in *Britany* in *France*, in search of antiquities, and materials to carry on the extensive designs he had formed.

In all these journies he was constantly attentive to the objects of natural history, fossils, plants, and any remarkable phenomena of nature. Such of his remarks as are published in the *Philosophical Transactions*, are full of curious and new information on these subjects. His knowledge of the plants of his own country, and particularly those of *Wales*, justly entitles him to remembrance in these pages, although he was not professedly an author on the subject of them.

LLHWYD first brought to light several of the rare plants of *Wales*; many of which, till of late years, were considered as natives of no other part of Britain. He discovered
several

several very scarce species in *Cornwall*: all these he communicated to Mr. RAY, who inserted them in the editions of his *Synopsis*, with due acknowledgments. After having made very large collections for the antiquities of *Wales*, and formed great designs in literature, he died before he could digest them into order for publication, in July 1709.

Exclusive of large communications, made to Bishop GIBSON's edition of *Camden*, on the antiquities of *Wales*, he formed, from the fruit of his own investigations, the *List of Plants* subjoined to the account of that country.

He published, "LITHOPHYLACII BRITANNICI ICHNOGRAPHIA." 1699. 8°. *cum tab.* 25. This work, which is a methodical catalogue of the figured fossils of the *Ashmolean* Museum, consisting of 1766 articles, was printed at the expence of Sir *Isaac* NEWTON, Sir *Hans* SLOANE, and a few others of his learned friends. As only 120 copies were printed, a new edition of it was published in 1760 by Mr. *Huddesford*; to which were annexed several letters from Mr. LLHWYD to his learned friends, on the
x
subject

subject of Fossils; his *Prælectio de Stellis Marinis Oceani Britannici, et Asteriarum, Entrochorum, et Encrinorum Origine.*

In Mr. RAY's correspondence, we meet with thirteen letters, written by LLHWYD; all, except one, bearing date in 1690, and the four subsequent years. They run chiefly on the subject of Fossils. In October 1692, he informs Mr. RAY, that he was employed in drawing up a Catalogue of Mr. ASHMOLE's *Legacy* of Books, Medals, and Pictures. In the list of his printed works, we find *Catalogus Librorum Manuscriptorum in Museo Ashmoleano*, in 10 sheets, folio, without date. In 1707, he published "ARCHÆOLOGIA BRITANNICA," fol. Vol. I. *Glossography*. A work by which he will long be remembered among the lovers of antiquity.

From private information, I have learned that Mr. LLHWYD left a very considerable library, a large collection of manuscripts and specimens; that in the year 1728, these were all in the custody of Dr. FOWLKES, of *Lhanber*, who died soon after that time. They were undisposed of ten years after-

wards ; but the printed books, which were of great worth, had been valued by a gentleman and two booksellers, and the refusal of them offered to the Duke of *Bedford*. My intelligence reached no farther.

I conclude this account with a catalogue of Mr. LLHWYD's papers, published in the *Philosophical Transactions*.

An Account of the *Lapis Amianthus*, or *Linum Fossile Asbestinum*, found in the Northern part of *Anglesey*; with Mr. LLHWYD's Method of making it into Paper. N° 166. Vol. xiv. p. 223.

A Description, in *Latin*, of several regularly-figured Fossils ; with Figures. These were the *Siliquastra*, *Bufonites*, *Glossopetræ*, &c. N° 200. Vol. xvii. p. 746.

On the Swarms of Locusts which appeared in *Wales* in the year 1693 ; and an Extract from a Manuscript History of *Pembrokeshire*, relating to an immense number of Caterpillars, which consumed the produce of 200 acres of grass in three weeks time, in the year 1601. N° 208. Vol. xviii. p. 45.

A Relation of a fiery Exhalation, or
2 Damp,

Damp, at *Harleck*, in *Merionethshire*, in 1693 and 1694, which set fire to several stacks of hay, and proved fatal to many cattle. Mr. LLHWYD observes, that the sounding of drums and horns, &c. repelled it from houses and stacks of hay, and that at length, by this means, many were preserved. N° 213. Vol. xviii. p. 223.

Of an extraordinary Shower of Hail at *Pontipool*, in June 1697. N° 229. Vol. xix. p. 579.

Some Observations on Languages ; in which Mr. LLHWYD assents to Mr. PEZ-
RON's opinion, that the *Greek*, *Roman*, and *Celtic*, have one common origin. N° 243. p. 280.

Roman, *French*, and *Irish* Inscriptions ; and Antiquities in *Scotland* and *Ireland*, with seven Figures. N° 269. Vol. xxii. p. 790.

On the Difference between the Fossils of *Essex*, and those of *Wales*, and *Ireland* ; in the former *calcareous*, and in the latter *crystalline*. N° 291. Vol. xxiv. p. 1566.

On some strange Birds observed in *Wales*. N° 334. p. 464.

Observations made on Natural History in *Wales*: on Marcasites: Quadrupeds: Fish: and on *Welch* Manuscripts. N° 334. Vol. xxvii. p. 462.

On the Fossils and Iron Mines of *Brecknockshire*. p. 467.

In *Ireland*. A Stonehenge, near *Drogheda*: Giants Causeway: Basaltes on the Top of *Gader Idris*: Antiquities, &c. N° 335. Vol. xxvii. p. 503.

Antiquities and scarce Plants in *Ireland*. N° 336. ib. p. 524.

Natural Curiosities in *Cornwall*. N° 336. Vol. xxvii. p. 527.

Fossils and Antiquities in *Wales*: *Welch* Coins: Druids Beads: scarce Plants. With Figures. N° 337. Vol. 28. p. 93.

Observations in Natural History; and on Antiquities in *Scotland*. N° 337. Vol. xxviii. p. 97.

Description and Figure of a remarkable Sea Plant (*Tubularia indivisa* Lin.) N° 337. Vol. xxviii. p. 71.

L A W S O N.

Among those who distinguished themselves

selves for their knowledge in botany, without publishing professedly on this subject, *Thomas LAWSON*, by whose discoveries the *English Flora* was enlarged, must not be forgotten.

Of Mr. LAWSON I can only collect, that he lived at *Great Strickland*, in *Westmoreland*, at the time he transmitted to Mr. RAY "A Catalogue of the Rare Plants of the North of *England*;" which is printed in the "Philosophical Letters," p. 213. This list clearly evinces, that the author must have paid great attention to his subject; and, in fact, Mr. LAWSON first introduced several *English* plants into notice. It is to him that we owe the botanical part of ROBINSON'S "Essay on the Natural History of *Westmoreland* and *Cumberland*."

The very frequent mention of his name in the writings of Mr. RAY, and the copiousness of the *Catalogue of Rare Plants*, distinguished by him at so early a period, in the North of *England*, sufficiently confirm the character that eminent naturalist gives him, "of a diligent, industrious, and skilful botanist." It appears that he travelled

into various parts of *England*; since he recites plants collected by him on *Salisbury Plain*; and, if I mistake not, he made an excursion into the *Isle of Man*.

I conjecture that he survived Mr. RAY several years: but he was not living at the publication of the third edition of the *Synopsis Stirpium*, although he left papers, of which DILLENIUS availed himself on that occasion.

DR. ROBINSON.

At this period must also be introduced Dr. TANCRED ROBINSON, physician, in *London*, and fellow of the Royal College of Physicians, and of the Royal Society, between whom and Mr. RAY there subsisted the most genuine friendship and affection. *Amicorum Alpha* is the distinction which RAY gives him. The printed correspondence between them commences during Dr. ROBINSON's travels abroad, in 1683, and is continued for upwards of ten years. Seventeen letters of Dr. ROBINSON appear in the "Philosophical Correspondence," with all Mr. RAY's answers.

They

They run much on the subject of zoology ; but contain also botanical, and philosophical observations.

These letters, and the publications of Dr. ROBINSON, in the *Philosophical Transactions*, prove him to have been a man well acquainted with various parts of learning ; to which he added also an intimate knowledge of natural history, and in which he must have been very early initiated ; since RAY, in the Prefaces to his *Historia Plantarum*, in 1686, acknowledges, in strong terms, his obligations to him, for his care and assiduity in correcting and enriching his work ; adding, that he had exerted himself with a zeal that could not have been exceeded, had the work been entirely his own.

Mr. RAY afterwards put into his hands the manuscript of the *Synopsis*, and renewed his acknowledgments for the benefit it received under his inspection

Dr. ROBINSON was the author of the following communications, printed in the *Philosophical Transactions*.

An Account of the four first Volumes of the “*Hortus Malabaricus* ;” with Remarks. N° 145. N° 198. N° 200. N° 214.

A Description, with a Figure, of the Bridge of *St. Esprit*, in *France*. N° 169. Vol. xiv. p. 584.

On the natural Sublimation of Sulphur from the Pyrites, and Limestone, at *Ætna*, *Vesuvius*, and *Solfatara*. N° 169. Vol. xv. p. 924.

Observations on boiling Fountains and subterraneous Steams, occasioned by viewing that of *Parone*, near *Montpelier* : with an enumeration of many others in various parts of the world. N° 169. and 172. p. 922. 1038. With Remarks.

On the Lake *Avernus*. Ib. 172.

On the Truffles found at *Rushton*, in *Northamptonshire* ; with Figures. N° 204. Vol. xvii. p. 935.

On the *Scotch* Barnacle, and *French* *Ma-creuse*. N° 172. Vol. xv. p. 1036.

An Account of *Henry Jenkins*, who lived 169 years. N° 221. Vol. xix. p. 267.

On the Northern Auroras, as observed
over

over *Vesuvius*, and the *Strombolo* Islands; with Conjectures on the Origin of them. N° 349. Vol. xxix. p. 483.

Observations, made in 1683 and 1684, about *Rome* and *Naples*: on the *Opuntia*: Cork Trees: *Manna*: Volcanos: Palm Trees; and other vegetable Productions about *Naples*: Antiquities: Birds and Fishes. N° 349. Vol. xxix. p. 473.

D O D S W O R T H.

The Rev. *Matthew* DODSWORTH, whose residence appears to have been in *Yorkshire*, is mentioned both by RAY and PLUKENET, as well acquainted with *English* botany. He was the first discoverer of at least two of the *English* plants, both of which he sent to PLUKENET.

C H A P. 36.

Dale — *Anecdotes of—His Pharmacologia — His “Antiquities of Harwich,” written by Silas Taylor—Dale’s valuable additions to that work —An early assistant to Ray—His papers in the Philosophical Transactions.*

D A L E.

SAMUEL DALE, of *Braintree*, in *Essex*, the friend and neighbour of Mr. RAY, eminent for his knowledge of botany ; but better known as a writer on the most important part of the science, its application to the purposes of physic. I am not furnished with any anecdotes concerning this respectable writer, further than, that he practised as an apothecary at *Braintree*, until about the year 1730 ; about which time he became a Licentiate of the College of Physicians, and was elected a Fellow of the Royal Society. At this time, I apprehend, he settled at *Bocking*, and practised as a physician until his decease, June 6th

1739,

1739, in the eightieth year of his age. He was buried in the Dissenter's burying-ground at *Bocking*. A print of him may be seen before the third edition of his *Pharmacologia*.

He published PHARMACOLOGIA, f. *Manuductio ad Materiam Medicam*. It was first printed in 8°, 1693, with the sanction of the College of Physicians, and we find four editions of it printed abroad. It was republished at London in 1705 and 1710, 8°, and a third time in 4°, in 1737, pp. 460; which edition is much improved and enlarged. The arrangement of the work is that of RAY; and, to each chapter, throughout the vegetable kingdom, he has prefixed the characters of the genus, from the *Methodus Emendata* of that author. He has moreover, with great labour, constructed a *Syllabus*, or synoptical view of all the articles under each section or class, on a more amplified plan, than that of RAY.

The *Materia Medica* of DALE, in its first edition, may be said to have been one of the earliest rational books on the subject.

ject. In an interval of more than forty years, between the first and last editions, much of that credulity which had obtained, respecting the powers of simples, among the writers of the last century, had abated. Several excellent publications had taken place abroad, which, aided by improvements at home, enabled DALE to select better materials, and give his last edition the importance of a new work. Scarcely in any author is there a more copious collection of synonyms, a circumstance which, independent of much other intrinsic worth, will long continue the use of the book, with those who wish to pursue the history of any article through all former writers on the subject.

In 1730, Mr. DALE published, "The ANTIQUITIES of HARWICH and DOVER " COURT," in 4°, pp. 464. tab. 14. written by *Silas TAYLOR, Gent.* about the year 1676, with large notes, amounting to much the greater part of the book. Howsoever respectable our author may appear as an antiquary in this volume, he is equally so as a naturalist, in general. His History of the Figured Fossils of the Cliff is very exact,
and

and copious; and the view he has given, in a short compass, of the various opinions relating to the origin of these bodies, as held by the writers of the last, and the beginning of the present century, is very satisfactory.

His *Synopsis* of the animals and vegetables of the neighbouring sea and coast, proves his intimate and critical knowledge of his subjects; and being embellished with several good copper-plates, renders his book a real acquisition to science.

It is highly probable, that, from their vicinity to each other, DALE owed to Mr. RAY, his attachment to natural history, and the great proficiency he so early made in that study. We find Mr. RAY acknowledging his assistance in collecting, and extricating the synonyms of plants, correcting errors, and supplying omissions, for his *Historia Plantarum*, of which the *imprimatur* bears date 1685, when DALE could not be more than 26 years old.

DALE was the author of several communications to the Royal Society, which

were published in the *Philosophical Transactions*.

A Method of making Turnip Bread: practised in Essex in a scarcity of corn in 1693. Printed in N° 205.

Some Observations on the *Vermis Aureus* of *Bartholine* (*aphrodita aculeata Lin.*) a marine animal, called a *Sea Mouse*: common on the coast of *England*; but not having been much observed, until Dr. *Molyneux* described it, had at that time excited curiosity. N° 249.

A Relation of two large Eels, taken on the coast of *Essex*. One of these measured five feet eight inches; the other seven feet, in length, They wanted the character of the *Conger*, and were judged to be fresh water eels, carried by floods into the sea. N° 238, Vol. xx. p. 90.

On several Insects found near *Colchester*. N° 249.

The Case of a Woman, who laboured under an obstinate Jaundice, accompanied with that defect of sight, which Pathologists have called *Amblyopia Crepuscularis*; in

in which vision is quite lost after sun-set, and gradually returns as day-light comes on again. N° 211. Vol. xviii. p. 158.

Queries, relating to the *Entalia*, *Dentalia*, *Blatta byzantina*, *Purpura*, and *Buccina* of the Shops. N° 197. They were answered by Dr. LISTER.

An Account, with figures, of three Saxon Coins, dug up at *Honedon* in *Suffolk*. N° 205. Vol. xvii. p. 874.

An Account of *Harwich* Cliff, with a List of twenty-eight Species of Fossil Shells, found imbedded in the Strata. N° 291. Vol. xxiv. p. 1568. This was much enlarged in the Notes to the History of *Harwich*, mentioned above.

An Account of MSS. left by Mr. RAY. N° 307. Vol. xxv. p. 1282.

A Letter from *Samuel* DALE, M. L. to Sir *Hans* SLOANE, Baronet, F.R.S. containing Descriptions of the *Moose Deer*, and a sort of Stag in *Virginia*, with Remarks on the Flying Squirrel of *America*. Vol. xxxix. p. 384*.

* LINNÆUS applied the name *Dalea* to a new American plant of the Diadelphous class, communicated by
MILLER

MILLER to the *Clifford Garden*, and figured in the Work that bears that name. The plant afterwards fell into the genus *Psoralea*, established by *Van ROYEN*, now comprehending many species, where it preserves the trivial name of *Dalea*. BROWN endeavoured afterwards, to perpetuate *Dale* in his *Jamaica Plants*; but BROWN's species became the *Eupatorium Dalea* of the *Linneæan system*.

C H A P. 37.

Bradley — a popular Writer on Gardening and Agriculture — Professor of Botany at Cambridge — *Historia Plantarum Succulentarum*.

Blair — *Anecdotes of* — His Miscellaneous Observations — *Botanic Essays: a Book of much Instruction* — Confirms the Doctrine of the Sexes of Plants by Experiments — *Pharmaco-botanologia* — *Papers in the Philosophical Transactions*.

B R A D L E Y.

RICHARD BRADLEY, a popular writer on Gardening and Agriculture, in the early part of this century, was one of the first who treated these subjects in a philosophical manner; and, as he possessed considerable botanical knowledge, is entitled to a place in these Anecdotes. He first made himself known to the public by two papers, printed in the xxixth Volume of the *Philosophical Transactions*. One “on the Motion of the Sap in Vegetables* :” the other, “on the quick Growth of Mouldiness on Melons†.” He became a Fellow of the *Royal Society*, and

* Vol. xxix. p. 486.

† Ib. p. 490.

was chosen Professor of Botany in the University of *Cambridge*, in 1724. BRADLEY was the author of more than twenty separate publications; chiefly on Gardening and Agriculture, published between the years 1716 and 1730.

His "New Improvement of Planting and Gardening, both Philosophical and Practical," 8°, 1717, went through repeated impressions; as did his Gentleman's "and Gardener's Kalendar," (which was the fourth part of the preceding book) both at home, and in translations abroad. His "Philosophical Account of the Works of Nature," 4°. 1721, was a popular, instructive, and entertaining work, and continued in repute several years. The same may be said of his "General Treatise of Husbandry and Gardening," 8°. 2 Vol. 1726; and of his "Practical Discourses concerning the four Elements, as they relate to the Growth of Plants." 8°. 1727. His "*Dictionarium Botanicum*." 8°. 1728, was, I believe, the first attempt of the kind in *England*.

Mr. BRADLEY was not eminent for any discoveries relating to the indigenous plants
§ of

of *England*; but exotic botany was indebted to him for an undertaking, which there is reason to regret he was not enabled to pursue and perfect. I mean his book on *Succulent Plants*. As this tribe is incapable of being advantageously preserved in a *Hortus Siccus*, there is no part of botany that calls more essentially for a separate publication. His work bears the following title, “*HISTORIA PLANTARUM SUCCULENTARUM, complectens hasce insequentes Plantas, Aloen scilicet, Ficoiden, Cereos, Melocardium, aliasque ejus generis quæ in Horto sicco coli non possunt, secundum Prototypum putantur naturam in tabellis æneis insculptas, earumdem Descriptiones huc accedunt et Cultura. 4°. 1716. t. 50.* It was published in *Decads*, at different times, between the years 1716 and 1727; of which only five were completed. The whole was republished in 1734. The descriptions are in Latin and English, and the figures extremely well done in the style of the time. It preserves its value, as being cited by LINNÆUS, and as containing some plants not figured in any other publication.

lication. A species of *Sedum* is the only indigenous plant contained in it.

BRADLEY gave a course of Lectures on the *Materia Medica*, in *London*, in the year 1729, which he published in 8°, in the succeeding year. He died at the latter end of 1732.

Although BRADLEY's writings do not abound in new discoveries, yet they are not destitute of interesting knowledge, collected from contemporary gardeners, and from books. He was an advocate for the circulation of the sap, and made several new observations on the sexes of plants, in consequence of the production of hybrid species, by which he added strength to that doctrine. He wrote instructively on the gems of trees ; on bulbs ; on grafting ; and particularly, on the methods of producing variegated and double flowers.

On the whole, BRADLEY's writings, coinciding with the growing taste for gardening, the introduction of exotics, and improvements in husbandry, contributed to excite a more philosophical view of these arts,

arts, and diffuse a general and popular knowledge of them throughout the kingdom.

The industry and talents of BRADLEY were not mean ; and though unadorned by learning, were sufficient to have secured to him, that reputable degree of respect from posterity, which it will ever justly withhold from him who fails to recommend such qualifications, by integrity and propriety of conduct. In these, unhappily, Mr. BRADLEY was deficient. We learn, from the account given of him by Mr. MARTYN, that he procured the professorship in a clandestine and fraudulent manner, and afterwards neglected to perform the duties of it. The University, nevertheless, allowed him to retain the nominal distinction of Professor, and appointed Dr. MARTYN to give the lectures. Near the conclusion of his life, his conduct was so unbecoming, that it was in agitation to deprive him of this nominal title.

BLAIR.

Dr. *Patrick* BLAIR was a native of *Scotland*, and practised phyfic and furgery at *Dundee*; where he made himself first known as an anatomist, by the dissection of an elephant, which died near that place, in 1706. He was a Nonjuror, and so far attached to the exiled family, as to have been imprisoned in the rebellion in 1715, as a suspected person. He afterwards removed to *London*, where he recommended himself to the *Royal Society*, by some Discourses on the Sexes of Flowers. His stay in *London* was not long; he quitted it, and settled at *Boston*, in *Lincolnshire*; where, if I mistake not, he practised phyfic during the remainder of his life. I am not able to ascertain the time of his decease; but I conjecture that it was soon after the publication of the Seventh *Decad* of his *Pharmacobotanologia*, in 1728.

Dr. BLAIR's first publication was intitled "Miscellaneous Observations in Phyfic, Anatomy, Surgery, and Botanicks." 8°, 1718. In the botanical part of this work,

work, he insinuates some doubts relating to the method suggested by PETIVER, and others, of deducing the qualities of vegetables, from the agreement in natural characters; and instances the *Cynoglossum*, as tending to prove the fallacy of this rule. He relates several instances of the poisonous effects of plants; and thinks the *Ecbium Marinum* (*Pulmonaria Maritima* Lin.) should be ranked in the genus *Cynoglossum*, since it possesses a narcotic power. He describes, and figures, several of the more rare *British* plants, which he had discovered in a tour made into *Wales*. e. g. The *Rumex Digynus*: *Lobelia Dortmanna*: *Alisma Ranunculoides*: *Pyrola Rotundifolia*: *Alchemilla Alpina*, &c.

But the work by which Dr. BLAIR rendered the greatest service to botany, originated with his "Discourse on the Sexes of Plants," read before the *Royal Society*, and afterwards greatly amplified, and published, at the request of several members of that body, under the title of,

BOTANICK ESSAYS. 1720. 8°. pp. 414. with four copper-plates. This treatise is

divided into two parts, containing five essays. The three first, concerning what is proper to plants; the two last, what is common to plants and animals.

Essay I. On the Structure of Flowers. The Distinction and Definition of the several Parts.

Essay II. Definition of the Fruit, and the several Kinds.

Essay III. Of the different Methods of disposing Plants. Analysis of the several Methods of Classification, with Critical Remarks on each.

Essay IV. On the Generation of Plants. The Concurrence of Sexes necessary. Variety of Reasons in Favour of this Doctrine. The several Opinions relating to the Nature and Use of the Farina. Mr. MORLAND'S Opinion confuted.

Essay V. Of the Nourishment of Plants. The *Folia Seminalia*. The Vegetation of Annuals, and of Trees; and the Structure of the Parts explained. That there is a Circulation of the Sap in Vegetables.

Dr.

Dr. BLAIR's treatise, as far as I can find, was the first compleat work, at least in the *English* language, written on the subject; and the author shews himself well acquainted, in general, with all the opinions, and arguments of authors, on the matter of each essay. The value of these *Essays* must not be estimated by the measure of modern knowledge, though even at this day, they may be read by those not critically versed in the subject, with instruction and improvement. A view of the several methods then invented, cannot be seen so connectedly exhibited in any other *English* author. Dr. BLAIR strengthened the arguments in proof of the Sexes of Plants, by sound reasoning, and some new experiments. His reasons against MORLAND's opinion, of the entrance of the *Farina* into the *Vasculum seminale*, and his refutation of the Lewenhoekian theory, have met with the sanction of the moderns. If his theory of vegetation, of the nourishment of plants, and his arguments in favour of the circulation of the sap, do not meet with the approbation of the present age, it must

must at least be granted, that they are as rational in the principle of them, as those of his predecessors.

Pharmaco-botanologia: or, “An Alphabetical and Classical Dissertation on all the “*British* Indigenous and Garden Plants of “the New Dispensatory.” Lond. 1723—1728. 4°. The genera and species are described, the sensible qualities and medicinal powers are subjoined, and the pharmaceutical uses.

In this work the author notices several of the more rare *English* plants, discovered by himself in the environs of *Boston*. The work was imperfect, being carried no farther than the letter H.

Dr. BLAIR was the author of the following papers in the *Philosophical Transactions*.

The Anatomy and Osteology of an Elephant, with an historical Account of that Animal. N° 326. 327. 358. Vol. xxvii. p. 53. and 117. and Vol. xxx. p. 385. This Account was also separately published in 4°. 1711, illustrated with figures.

The heat of the weather when the animal died, occasioned a precipitate dissection; but.

but the rarity of the occasion added such zeal to the anatomist, that it is matter of surprise that Dr. BLAIR could so amply gratify the comparative anatomist, as he has done in this paper. He has supplied the deficiency of some articles, and illustrated others, from the History of the Dissection of an Elephant which perished at *Dublin*; published by Dr. MOULINS, in 1682.

An Account of the *Asbestus*, or *Lapis Amianthus*, found in the county of *Angus*, in *Scotland*. N° 333. Vol. xxvii. p. 434.

A Dissection of a Child emaciated. N° 353. Vol. xxx. p. 631. At five months old the child weighed only five pounds. Dr. BLAIR could find no vestige of the *omentum*, and queries whether this atrophy might not originate in the want of that membrane. The absence of this part was probably the consequence, rather than the cause of this infant's disease.

An Account of a Boy who lived a considerable Time without Food. N° 364. Vol. xxxi. p. 28.

A Method of discovering the Virtues of Plants by their external Structure. N° 364. Vol.

Vol. xxxi. p. 30. Dr. BLAIR thinks it probable that even the ancients were led, in many instances, by the comparison of the habit, to ascribe similar virtues to plants; and, in others, by the conformity in the sensible qualities of taste and smell.

Observations on the Generation of Plants. N° 369. Vol. xxxi. p. 216. An Experiment by Mr. *Philip* MILLER, who, on separating the Male Spinach from the Female, found that the Seeds ripened; but on being sown, did not vegetate. Instances of Hybrid Productions among Savoy and other Cabbage Plants. Observations on Variegations in Plants: on the Impregnation of Flowers, by the Bees and other Insects carrying the *Farina* from Flower to Flower *.

* HOUSTON denominated an *American* plant, described by SLOANE as a *Scorodonia*, after the name of BLAIR. This proving to be a species of *Verbena*, LINNÆUS, sensible of the praise due to BLAIR, transferred the appellation to a *Tetrandrous* plant brought from the *Cape of Good Hope*, nearly allied in habit to the *Heath* genus, and called it BLÆRIA.

C H A P. 38.

Sherard—*Some account of—Makes several tours on the continent—Communications to Ray—Supposed author of Schola Botanica—Editor of Herman's Paradifus—Consul at Smyrna—Communicates the Monumenta Teia and Sigeian Infcription to Chishull—Garden near Smyrna—Brings Dillenius into England—His Pinax—Herbarium—Endows the professorship at Oxford.*

James Sherard—Brother to the Consul—Well versed in English Botany—His garden at Eltham—Infcription on his monument.

DR. WILLIAM SHERARD.

WILLIAM SHERARD, or *Sherwood*, the son of *George Sherwood*, of *Bushby*, in *Leicestershire*, was born in 1659, and educated at Merchant Taylors' School, till he was entered at *St. John's College, Oxford*, in the year 1677. Of this college he became a Fellow, and took the degree of Bachelor of Law, Dec. 11, 1683. After this time, he accompanied *Lord Viscount Townshend* in his travels; and discharged his

his trust with so much reputation, that he was prevailed on to take the charge of *Wriotbesly*, grandson of *William*, first Duke of BEDFORD; and made a second tour to the continent, with equal satisfaction to the noble family who confided in him.

He returned from this tour, as I conjecture, about the year 1693; and communicated to Mr. RAY a Catalogue of Plants, which he had remarked on Mount *Jura*, *Salève*, and the neighbourhood of *Geneva*. This was published as a Supplement in RAY's "*Sylloge Stirpium Europæarum*." About this time we find he was in *Ireland*, with his friend Sir *Arthur* RAWDON, at *Moyra*; of whom mention has been made in the article SLOANE.

In travelling, SHERARD gratified his favourite passion, and formed connections with the most celebrated characters on the continent, HERMAN, BOERHAAVE, and TOURNEFORT. He was very early skilled in *English* botany; and although his publications are few, there is no doubt that he had bestowed great assiduity in the study of *English* plants. Need I allege any farther evidence,

evidence, than the obligations, already mentioned, which Mr. RAY acknowledges for assistance in his "History of Plants." He travelled early into various parts of *England*, and was ever attentive to make discoveries. He made the tour of the West as far as into *Cornwall*. He searched the island of *Jersey*, and communicated a List of Plants to Mr. RAY, to be inserted in the first edition of the *Synopsis*, printed in 1690.

He is said to have been the author of a book published under the name of *Samuel WHARTON*, "*Schola Botanica; sive, Catalogus Plantarum quas ab aliquot Annis in Horto Regio Parisiensi Studiosis indigitavit Jos. Pet. TOURNEFORT.*" *Amst.* 1689. 12°. It was reprinted in 1691, and 1699. If indeed SHERARD was the author of this book, he must have attended the lectures of TOURNEFORT three several seasons. It contains a rude sketch of TOURNEFORT's Method of Botany, exemplified in a large catalogue of plants; among which are innumerable varieties, some new species collected by TOURNEFORT himself in the *Pyrenæan* Mountains,

Mountains, and others introduced by the care of M. FAGON.

It is to SHERARD also, that the learned owe the publication of HERMAN'S "*Paradisus Batavus, continens plus centum Plantas affabre Ære incisas, et Descriptionibus illustratas.*" 4°. *Lugd. Bat.* 1698. He wrote a preface to this work, in which he relates the difficulties he met with, in reducing the author's papers into method; and which contains an account of other works of HERMAN. This preface is dated from *Geneva*, in April 1697; at which time, I apprehend, SHERARD was on his third tour, on the continent.

In the year 1700, Mr. SHERARD communicated to the Royal Society a Method of making several *China* Varnishes, which were sent from the Jesuits in *China* to the Great Duke of *Tuscany*. It was published in the *Philosophical Transactions*, N° 262. Vol. xxii. p. 525. And the next year he communicated to the Society a paper from Dr. J. DEL PASSA, on the poisonous Effects of the *Indian* Varnish on the human Skin; which on the naked Skin of Poultry proved

proved quite harmless. How soon after this time he was engaged in any public employment, I cannot determine: but, in 1702, he was one of the commissioners for sick and wounded seamen at *Portsmouth*; and, I believe, was soon after appointed consul at *Smyrna*; a department, which, it is probable, his desire of investigating the plants of the East had no small share in inducing him to accept. But SHERARD's knowledge and taste was not confined to the study of botany. Mr. MARTYN informs us, that, "in 1705, with *Antonio PICENINI*, he visited the seven churches of *Asia*. In 1709 and 1716, he transcribed the *Monumenta Teia*, and caused the *Sigean* inscription to be copied and sent to *England*; and the learned Dr. CHISHULL dedicates his account of it to him." He also sent an account of the island raised near *Santorini*, in the *Archipelago*, on the 12th of May, 1707; which was printed in the *Philosophical Transactions*, N° 314. Vol. xxii. p. 67.

During his residence at *Smyrna*, he had a country house at a place called *Sedekio*.

It is not yet forgotten as the residence of SHERARD. In 1749, [HASSELQUIST visited this retreat, and viewed, with all the enthusiasm of a young botanist, the spot where “the regent of the botanic world,” as he styles him, spent his summers, and cultivated his garden. Here SHERARD collected specimens of all the plants of *Natolia* and *Greece*, and began that famous *Herbarium*, which at length became the most extensive that had ever been seen as the work of one man, since it is said finally to have contained 12,000 species. And here he is said to have begun the much-celebrated *Pinax*, to which he continued to make accessions throughout his life. He returned into *England*, in 1718. Soon after which time, he had the degree of Doctor of Laws conferred upon him by the University of *Oxford*.

In 1721, Dr. SHERARD communicated to the Royal Society an Account of the Poison Wood Tree of *New England*, which he had received from Mr. MORE. It does not appear that the species had been ascertained till Dr. SHERARD pointed it out as
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the *Arbor Americana alatis Foliis*, &c. Pluk. Phytogr. t. 145. f. 1. (*Rhus Vernix* Lin.) This observation is printed in the *Phil. Trans.* N° 367. Vol. xxxi, p. 147.

In this year he returned to the continent, and made the tour of *Holland, France, and Italy*. Whilst at *Paris*, he found VAILLANT in a declining state of health; but, anxious to preserve his papers from oblivion, VAILLANT had solicited BOERHAAVE to purchase, and to publish them. SHERARD negociated the business, and spent the greatest part of the summer with BOERHAAVE, in reducing the manuscripts into order. To SHERARD, therefore, principally, the learned owe the *Botanicon Parisense*, which was published in 1727. BOERHAAVE prefixed to this work a *Latin* letter, written by Dr. SHERARD, giving an account of this transaction; which is also more fully explained in the preface. It was in this tour, that, being in search of plants in the *Alps*, he narrowly escaped being shot by a peasant for a wolf.

On his return, he brought over with him the celebrated DILLENIIUS, with

whom he had before corresponded, and whom he had encouraged to prosecute his enquiries into the *Cryptogamia* class, and in publishing his *Plantæ Giffenses*. SHERARD had himself been among the earliest in *England*, to promote attention to this hitherto neglected part of nature; and in this DILLENIIUS had already excelled all who had written before him.

Although Dr. SHERARD had acquired a considerable fortune in *Asia*, yet he lived with the greatest privacy in *London*, wholly immersed in the study of natural history; except when he went to his brother's seat and fine garden at *Eltbam*. Dr. DILLENIIUS assisted him in his chief employment, the carrying on his *Pinax*, or Collection of all the names, which had been given by botanical writers to each plant; being a continuation of *Caspar* BAUHINE's great plan.

Dr. SHERARD was, in a particular manner, the patron of Mr. *Mark* CATESBY; and himself affixed the *Latin* names to the plants of "The Natural History of *Carolina*."

He

He died August 12, 1728 ; and, by his will, gave three thousand pounds, to provide a salary for a professor of botany at *Oxford*, on condition, that Dr. DILLENIUS should be chosen first professor. He erected the edifice at the entrance of the garden, for the use of the professor ; and gave to this establishment his botanical library, his *Herbarium*, and the *Pinax*.

Dr. SHERARD was among the last of those ornaments in *England*, of that æra which LINNÆUS calls “ the golden age of botany.” Having from his earliest years a relish for the study of natural history, and in his youth acquired a knowledge of *English* botany, his repeated tours to the continent, and his long residence in the East, afforded ample scope for his improvement ; and the acquisition of affluence, joined to his learning, and agreeable qualities, rendered him, after his return home, a liberal and zealous patron of the science, and of those who cultivated it *.

Some

* VAILLANT first devoted the name *Sherardia* to a new genus, which was afterwards assimilated with the

Some manuscripts of Dr. SHERARD'S were presented to the Royal Society by Mr. ELLIS, in the year 1766.

J. SHERARD.

James, the brother of *William* SHERARD, was born in 1666. He practised physic as an apothecary in *London*, and was early and strongly attached to his brother's favourite pursuit. Having become eminent and opulent in his profession, he cultivated, at his country seat, at *Eltham*, in *Kent*, one of the richest gardens that *England* ever possessed. It was also the retirement of his brother, the consul, after his return from *Smyrna*; and is immortalized by the pen of DILLENIIUS. Mr. SHERARD is not known as an author; but his name frequently occurs in RAY'S *Synopsis*, for his discoveries of rare *English* plants; of which he had great knowledge, as he is said to have had of natural history in general; and his zeal for

Vervain. About the same time, DILLENIIUS gave the like appellation, in his *Flora Giffensis*, to an *English* plant of the *Stellated* class, in the system of RAY, which retains its distinction in the *Tetrandrous* class of LINNÆUS.

botany

botany was singularly great. To these he added a relish for the elegant and polite arts; and particularly for music, in which he was eminently skilled.

He inherited the bulk of his brother's fortune; and, in the latter part of his life, had the degree of Doctor of Physic conferred upon him, if I mistake not, by the University of *Oxford*; and was admitted a member of the College of Physicians. He married *Susanna*, the daughter of *Richard Lockwood*, Esq; but died without issue, Feb. 12, 1737, N. S. and was buried in the church of *Evington*, near *Leicester*; where his widow erected a monument to his memory, of which I insert a copy below *. She survived him more than four years.

* M. S.

JACOBI SHERARD, M.D.

Col. Med. Lond. & Soc. Reg. Soc.

Viri multifaria doctrina cultissimi,

In rerum naturalium Botanices imprimis scientia,

Pene singularis;

Et nequid ad oblectandos amicos deesset,

Artis musicæ peritissimi

Accefferant illi in laudis cumulum

Mores christiani, vitæ integritas

Et erga omnes

Comitas et benevolentia.

Obiit prid. id. Feb. A. D. 1737,

Annos natus 72.

Uxor Susanna, Rich. Lockwood, arm. fil

Optimo marito

Hoc monumentum mœstissima posuit;

Quæ obiit Nov. 1741,

Et juxta maritum sepulta est.

C H A P. 39.

Dillenius — *a native of Germany — educated at Gieffen — Member of the Academia Naturæ Curioforum — Account of his memoirs in the Miscellanea Curiosa: on American plants naturalized in Europe: coffee, &c. — His Catalogus Giffensis — An account of that book — His numerous discoveries in the Cryptogamia class — Dillenius brought into England by Consul Sherard — Publishes a new and greatly enlarged edition of Ray's Synopsis — Employed in carrying on Sherard's Pinax.*

DILLENIIUS.

AFTER SHERARD, I am led in chronological course, as well as by other associations, to a character of the highest worth in botanical science. That harmony of taste, and co-operation of design, which first connected SHERARD and DILLENIIUS, hath inseparably united their names, as long as their works shall endure. DILLENIIUS, though not an *Englishman* born, is gratefully naturalized by a nation,
to

to whose botanical fame he gave an eminence it had not experienced from the time of RAY. It was no mean sacrifice to relinquish his country, his friends, his connexions, and his prospects from a profession, which is, at least sometimes, lucrative, that he might devote himself to the culture of science, in a foreign land, where the extent of his views was most probably bounded by the precarious hope of a professorship alone.

John Jacob DILLENIIUS * was born at *Darmstadt*, in *Germany*, in the year 1687. It appears that he had his education, principally at the university of *Gieffen*, a city of *Upper Hesse*; and where, probably, his family had considerable interest and connexions; since I find two of his contemporaries of the same name, of whom, one was

* There is a letter extant, written by DILLENIIUS, in 1727, in which he tells his correspondent, "I had once
" a mind to have spelled my name DILLEN, it being
" easier to pronounce; and to make my brother do the
" same: for my great grandfather spelled it so, and my
" great great grandfather DILL: but, considering that
" my name and my father's had been so often printed
" DILLENIIUS, I have left it as it is."

a professor

a professor of medicine, and dean of the faculty of physic at that place; and the other, *Poliater*, or public physician; an office, I believe, not uncommon in *Germany*, though unknown here; and which DILLENIIUS himself held in the same city. He was very early made a member of the *Academia Curiosorum Germaniæ*. He communicated several papers to that society, which were published in their *Miscellanea Curiosa*. The earliest, that I find, was a Dissertation, in the *Third Century of Observations*, about the year 1715, concerning the plants of *America* which are naturalized in *Europe*. This is a subject which might again be taken up by a skilful hand, to great advantage. The result of observation, and communication on this matter, would unquestionably prove, that a far greater number of plants than we are aware of, which are now thought to be indigenous in *Europe*, were of exotic origin. Besides the most obvious method, from the garden to the dunghill, and from thence to the field, amongst a variety of other causes, the importation of grain has introduced a great number: the package of merchandise,

dise, and the clearing out of ships, have been the means of dispersing many. The *English Flora*, as it now stands, cannot contain fewer, perhaps, than sixty *acknowledged* species; and a critical examination would probably investigate a much greater number.

In the *Fourth Century* of the same work, we find a critical dissertation on the (*Cabve*) coffee of the *Arabians*: and on *European* coffee, or such as may be prepared from grain or pulse. DILLENIOUS gives the result of his own preparations made with pease, beans, and kidney beans; but says, that from *rye* comes the nearest to true coffee, and was with difficulty distinguished from it.

In the *Sixth Century*, he has described and figured four species of dubious plants; three of the *Spergula* genus, now *Arenariæ*; and a *Veronica*.

In the Appendix to this *Century*, DILLENIOUS gave the first specimen of his accurate examination of some plants of the *Cryptogamous* class; which he afterwards pursued so greatly to the improvement of
botany.

botany. In this paper, DILLENIUS treats on the propagation of plants in general ; but more particularly on that of the *Ferns*, or *capillary* plants ; and of the *Mosses*, which had hitherto been considered as destitute of flower and seed. He describes the flowers of that genus, which he afterwards called *Lichenastrum*, and which was named by MICHELI, *fungermannia*. He delineates two of the *Chara* genus ; some of the *Conservæ* ; and several of the more perfect plants, particularly the *Chondrilla*. He fixed the genus *Radiola* ; *Corrigiola*, &c. and particularly the *Centunculus* ; and *Cameraria*, which was afterwards called *Montia*. To these he subjoins many curious observations on the use of the *petals* and *stamina*, all tending to confirm the doctrine of the *sexes* of plants ; observations on the root of the *Equisetum* ; on the dust of the *Antheræ*, and on the different shape of that in the *Orchis*, which he says is conical ; and of that in the *Ophrys*, which is round.

In the *Ninth Century* of the same work, he relates an experiment he made concerning

ing the Opium which he prepared himself, from the poppy of *European* growth.

In the *Eighth Century*, he appears as a zoologist, in a paper on *Leeches*; and describes two species of the *Papilio* genus.

In 1719, he published his “ Catalogue
“ of Plants growing in the neighbourhood
“ of *Gieffen* ;” a work which established his character as one of the most accurate botanists of the age. It bears the following title :

“ *Jo. Jac. DILLENII, M. L. Ac. Nat. Cur. Coll. Catalogus Plantarum sponte circa Gissam nascentium, cum Appendice, qua, Plantæ post editum Catalogum circa et extra Gissam observatæ recensentur, Specierum novarum vel dubiarum Descriptiones traduntur, et Genera Plantarum nova, Figuris æneis illustrata, describuntur : pro supplendis Institutionibus Rei Herbariæ Josephi Pitton TOURNEFORTII.*” *Frank. ad Mæn. 1719. 8°. Cum tab. xvi. Cat. pp. 240. App. pp. 174. Cui subjicitur Examen Responſionis Aug. Quir. RIVINI.*

It is dedicated to the heads of the university of *Gieffen* ; and contains the plants
of

of the neighbourhood, confined to a circuit of not more than a *German* mile and a half. Of this tract he has given a map in his book.

The author has prefixed “ A Critical Examination of the Methods of arranging “ Plants,” published by RAY and KNAUT, who had founded their classical distinctions on the *fruit*; and of those published by RIVINUS, and TOURNEFORT, founded on the *flower*. In the end, he gave the preference to RAY’s system, and adhered to it throughout his life. His criticism on RIVINUS brought upon him the resentment of the author, at that time far advanced in years, who answered his objections. DILLENIVS had written in a style that was but too reprehensible; and can only be excused, in some measure, as natural to the warmth of a young author; though it has been generally acknowledged, that he had the advantage in the argument.

Nothing can shew the early skill and indefatigable industry of DILLENIVS more strongly, than his being able to produce so great a number of plants in so small a tract.

He

He has not enumerated fewer than 980 species, of what were then called the more perfect plants; that is, exclusive of the *Mushroom* class, and all the *Mosses*. DILLENIIUS entered minutely into the examination of this class; and, by his diligence and discoveries, extended the bounds of that field, which the *English* botanists had so successfully cultivated before him. More had been done in *England* in this way than in any other nation. The *Pinax* of Caspar BAUHINE contains but fifty species; so little had the *Musci* been regarded before. The first edition of RAY's *Synopsis*, printed in 1690, not more than about eighty kinds; whereas by the investigations of the *English* botanists, particularly of DOODY, SHERARD, VERNON, LLHWYD, ROBINSON, PETIVER, BOBART, and others, this order was so far augmented in the second edition of the same work, in 1696, as to contain upwards of 170 species.

DILLENIIUS was, however, the first writer who examined them with a view to generical characters, and divided the *Mosses*, and *Mushrooms*, each into separate genera.

It

It is in this book that we first meet with *Bryum*, *Hypnum*, *Mnium*, *Sphagnum*, *Lichenoides*, and *Lichenastrum*, as generical names. The four first of these, were terms in use with the *Patres Botanici*, although neglected by the restorers of the science, who had ranked all under the general term *Muscus*; except the *Lichen*, *Lycopodium*, and *Polytrichum*. To demonstrate his accuracy and diligence, it may be observed, that, in the environs of *Gieffen* alone, DILLENIIUS discovered more than 200 species of *Mosses*, of which 140 were new: of the *Mushroom* order he enumerates 160, of which upwards of 90 were such as he judged had not been noticed by any author before. The plants in this catalogue are disposed in the order of flowering, throughout all the year. The places of growth are subjoined, with critical observations on many of the species.

The Appendix contains a list of twenty plants, additional to those of the Catalogue, discovered in the immediate environs of *Gieffen*; and an enumeration of upwards of 100 species, observed by the author, be-

yond the bounds circumscribed in the Catalogue. This renders the book, in a great measure, a *Flora* of the plants of *Hesse*. Then follows a description of the *new* species of the Catalogue. These are succeeded by the establishment of his new *genera* of *Mosses*, *Fungi*, and a variety of others, amounting to near 100, of which some of former authors are here only amended; but the far greater part are of his own constructing, and entirely new; and the parts of fructification separately delineated, in 16 copper-plates. This part of his work has been of great authority with succeeding writers; and many of these characters have stood the test of the *Linnæan* system.

The merit of this work fixed the character of the author, as a perfectly scientific botanist, and attracted the notice of all the eminent professors, and admirers of the science: among others, that of Mr. *William*, afterwards Dr. SHERARD, to whom we owe that DILLENIIUS was brought to *England*, and in the end fixed in the professorship at *Oxford*. SHERARD was, at that time, among the few who patronized and cultivated the science in *England*. He was
lately

lately returned from *Smyrna*; and having regretted the neglect of the *Cryptogamia* class, he was so enamoured with the discoveries of DILLENIIUS in that branch, that he entered into correspondence with him, and procured specimens from him, and afterwards brought him to *England*. No man was more closely devoted to a favourite muse than DILLENIIUS was to *Flora*; and, after his arrival in *England*, he pursued his study with uncommon ardour, and corresponding diligence. The acquisition of so able a man, was probably an additional motive with the Consul, to attempt the revival of botany in the university of *Oxford*.

DILLENIIUS came into *England* in August 1721, where he had not long resided before he undertook a work that was much desired; that of publishing a new edition of the *Synopsis Stirpium Britannicarum* of RAY. It had been last printed in 1696, and was become scarce. DILLENIIUS having firmly attached himself to RAY's system, and even improved it in some parts (though he intimates in one of his letters to a friend, that he was not allowed to

make all the changes he wished for), and being furnished with ample means of enlarging the book, by his discovery of new species of *Cryptogamia*, and by the establishment of new *genera*; being also enabled, by the discoveries of many ingenious men, whose names he enumerates in the preface, greatly to enlarge *English* botany; and, through the skill and assistance of Dr. RICHARDSON, Mr. *James* SHERARD, and others, being sufficiently qualified to add the old *British*, if I may so say, to the *English* botany, he published a third edition in 1724, much to the satisfaction of all the lovers of the science throughout *Europe*. Twenty-four plates of rare plants were added to this edition; and, besides many valuable notes, and emendations in the *genera*, the addition of new species was very great. The accumulation to this book from DILLENIIUS's own discoveries, and from the communications of others, whose names are mentioned in the preface, particularly those of Dr. SHERARD and Dr. RICHARDSON, amounted to near 40 new *Fungi*, as many *Marine* plants, upwards of 150 *Mosses*, and
considerably

considerably above 200 other plants, which had been discovered to be natives of *Britain*, since the publication of the second edition; the whole number of *British* plants being about 2200, as they stand in this book. But here it may be observed, that botanists had not at that time sufficiently established specific distinctions; and this number could not stand the test of the *Linnæan* rules, which has since reduced the number to fewer than 1800.

DILLENIIUS seems to have divided his time, before his establishment at *Oxford*, principally between the country residence of Mr. *James* SHERARD, at *Eltham*, in *Kent*; the Consul's house in town; and his own lodgings, which, in the year 1728, were in *Barking Alley*.

In the year 1727, Dr. THRELKELD published his *Synopsis Stirpium Hibernicarum*, in which he had introduced some severe strictures on DILLENIIUS, principally levelled at the introduction of his new generical names. He also inveighs against him for unnecessarily multiplying the species of

plants. See the articles, *Anagallis aquatica*, *Dens Leonis*, *Lichenoides*, *Muscus trichoides*, *Stellaria*, &c. DILLENIIUS, though displeased with the harsh and coarse language of THRELKELD'S criticisms, had temper enough to forbear entering into any controversy on this occasion. He probably did not think THRELKELD'S objections of any force sufficient to influence men of judgment in the science, as the *Irish* botanist had but little regarded any true principles of generical distinction. In a letter he wrote soon after the publication of the *Irish Flora*, after complaining of the grossness of THRELKELD'S censures, he informs his correspondent that there was but one plant recited in the book, which was not known before as a native of *Ireland*. This, he adds, is the *Pseudo-stachys Alpina* of Caspar BAUHINE (*Stachys Alpina* Lin.); and this he had inserted on the authority of Mr. HEATON'S manuscript.

About this time he had it in contemplation, to publish a new edition of the *Synopsis*, with the addition of the old *British* names ;
and

and the times of flowering—an article neglected in the former editions. This design was laid aside, and an *Appendix* intended, for which ample materials were in hand, received from different quarters, particularly from Dr. RICHARDSON, of *North Bierly*, in *Yorkshire*; and from Mr. BREWER, who had resided two seasons at *Bangor*, purposely to investigate, and collect the plants of *Snowdon*, and the neighbouring parts. BREWER was very successful in his researches, and sent at different times great numbers of scarce plants to DILLENIIUS. This *Appendix* also miscarried. In the mean time, all these exertions were favourable to the purpose he ever had in view, of completing the *Historia Muscorum*. *Wales* was a productive source of new subjects in this way, and DILLENIIUS availed himself of BREWER's researches,

Whatever might be the precise nature of his engagement with the *Consul*, it appears that DILLENIIUS, being doubtful of the success of the *Oxford* scheme, had formed a design of residing some time,

if not finally settling, in *Yorkshire*. In a letter to a correspondent of that county, dated Dec. 16, 1727, he writes thus: “ Pray Sir, how is it to board in that
“ country? if I have done here, and *Oxford*
“ fails, as its likely it may do, I could
“ resolve to go and live there some time,
“ if not for good and all; if any small
“ business should encourage it.” Ever
since his residence in *England*, his employments had been various, and important, and his assiduity as distinguished as his abilities. Since his arrival in 1721, he had published the *Synopsis*, of which he designed, if he did not himself engrave, all the figures. He soon after began the *Hortus Elthamensis*. He collected materials for a new edition of, or Appendix to, the *Synopsis*. He never lost sight of his *Historia Muscorum*. Additional to all which, the business of the *Pinnax* appears to have been pursued with vigour. In a letter dated Dec. 26, 1727, he says, “ We have entered almost all au-
“ thors; but to put it in order, and to write
“ it fair, will require some years still.”

In

In August 1728, his friend and patron, *Consul* SHERARD, died; in consequence of whose will, his establishment at *Oxford* took place soon after; the university waving the right of nomination, in consideration of Dr. SHERARD's benefaction.

C H A P. 40.

Dillenius established in the professorship of botany at Oxford—Publishes the Hortus Elthamensis—Linnæus visits the professor at Oxford—Correspondence with Haller—Assists Dr. Shaw in arranging his Oriental and African plants—His Historia Muscorum—Meditates an history of the Fungusses—His death and character.

D I L L E N I U S.

DILLENIIUS was now arrived at that situation, which had probably been the main object of his wishes; and which he considered equally as the completion of his hopes, the asylum against future disappointments, and the field of all that gratification, for which his taste and pursuits prompted him to wish, and qualified him to enjoy. Add to all this, he was placed in the society of the learned, in the completest sense of that word, and at the fountain of every information, which the stores of both antient and modern erudition could display, to an inquisitive mind.

The

The plan of the *Hortus Elthamensis* had been laid so early as the year 1724, immediately after publishing the *Synopsis*; and some of the plants were figured and described before Dr. SHERARD's death. The work was now carried on with vigour, and was printed in 1732, under the following title :

“HORTUS ELTHAMENSIS, seu Plantarum rariorum quas in Horto suo Elthami in Cantio coluit Vir ornatissimus et præstantissimus Jacobus SHERARD, M.D. Soc. Reg. et Coll. Med. Lon. Soc. Gulielmi, P.M. Frater, Delineationes et Descriptiones, quarum Historia vel planè non vel imperfectè à Rei herbariæ Scriptoribus tradita fuit. Auctore Johanne Jacobo DILLENIO, M.D.” Lond. Fol. pp. 437. Tab. 324.

In this elegant and elaborate work, of which LINNÆUS says, “*est opus botanicum quo absolutius mundum non vidit,*” are described and figured, with the most circumstantial accuracy, 417 plants, all drawn and etched with his own hand, consisting principally of such exotics as were then rare, or had been but lately introduced into *England*. A few of the more rare *English* and
Welch

Welch plants were included. They are disposed in the alphabetical order. The figures are of the natural size as much as may be. The *synonyma* of former authors are quoted and accompanied by copious critical examinations and observations, the better to ascertain the species. Several new *genera* are established, many of the new *Gerania* are figured, and a very copious history of the genus *Mesembryanthemum* given; with a synoptical view of all the species, of which fifty-four are described and figured in this work*.

We find by the list of graduates, that DILLENIUS was admitted to the degree of Doctor of Physic in *St. John's College*, April 3, 1735.

In the summer of 1736, LINNÆUS visited the Professor at *Oxford*; and, although DILLENIUS did not relish the sexual system, about that time first divulged, yet LINNÆUS returned with the highest opinion of

* The plates of the *Hortus Elthamensis* were afterwards sold to a *Dutch* bookseller; who cast off an impression, accompanied with the denominations only of the species. This was done at *Lcyden* in 1774; and many copies have found their way into this kingdom.

his merit ; and, as I have observed on another occasion, expressed himself in these terms : “ *In Anglia nullus est qui genera curat vel intelligat præterquam DILLENIIUS.*”

LINNÆUS, after this time, corresponded with him, sent him his *Flora Lapponica*, and dedicated to him the *Critica Botanica*. On which occasion the Professor sent his acknowledgments in the following terms, in a letter, dated Aug. 18, 1737 : “ *Vidi, accepi et legi Floram tuam Lapponicam multa cum voluptate ; utinam plures istiusmodi nobis prostackrent tali studio, et cura elaboratæ, in hac te virum præstitisti.*”

During this period, DILLENIIUS held frequent correspondence and communication with HALLER, whom he esteemed, probably the more, on account of the affinity of his system with that of RAY, which he had himself adopted. It appears, that he considered HALLER as almost the only man qualified to carry on the *Pinax*, and wished him to have been his successor.

About this time, he was employed with Dr. SHAW, in reducing to order and ascertaining, that learned traveller’s collection of
Oriental

Oriental plants. As they were all dried specimens, and the collection extensive, consisting of 640 species, it required the aid of an able hand to distinguish and apply synonyms to so considerable a number. This catalogue, therefore, which is annexed, with the engravings of a few of the plants, to the first edition of Dr. SHAW's elaborate work, may be considered eventually, as the work of the botanical Professor.

After the completion of the *Hortus Elthamensis*, he pursued his "History of Mosses" with great diligence. It has been observed before, that he had extended his researches into this part of nature, much further than any preceding botanist, having been the first discoverer of a great number of species, and having separated those heretofore described together by the general term *Muscus*, into several genera, under the names of *Sphagnum*, *Fontinalis*, *Bryum*, and *Hypnum*; taking his distinctions, as well from the *habitus* of the plant, (to which the accurate HALLER thought he paid too much regard,) as from the figure and situation of that part of the fructification which is
now

now considered as the *capsule*. By means of the excellent botanical library of the SHERARDS, and free access to their ample *Herbarium*, and that of Mr. DU BOIS, who had, with Mr. DOODY and several others, signalized themselves by their discoveries this way some years before, DILLENIOUS enjoyed advantages which perhaps no other situation could have afforded. Besides which, to give himself all further opportunities that *Britain* allowed of making discoveries in this department, he took a journey himself into *Wales*, in the summer of 1726. In this excursion he was attended by Samuel BREWER. They examined *Cader Idris*, and took up their residence at *Bangor*; searched *Snowdon*, *Glyder*, the *Isle of Anglesea*; and visited the *Isle of Man*. Mr. GREEN, a clergyman of those parts, was useful in directing their researches, and in assisting DILLENIOUS in the *Welsh* names of places, and of plants. The Rev. *Littleton* BROWN, M. A. Fellow of the Royal Society, is also commemorated, as having communicated many specimens of the *Cryptogamous* tribe to our author, collected by

him in *Wales*, *Shropshire*, and *Herefordshire*; and thus, by the communications of these, and many other friends, whose aid he has gratefully acknowledged *, he was enabled to bring his work to that degree of perfection, which would have been impracticable in many other situations. In 1741 it was published from the *Skeldon* press, under the following title:

“ HISTORIA MUSCORUM, in qua circiter sexcentæ Species veteres et novæ, ad sua Genera relatæ, describuntur, et Iconibus genuinis illustrantur; cum Appendice, et Indice Synonymorum. Opera Jo. Jac. DILLENII, M.D. in Universitate Oxoniensi Botanices Professoris SHERARDINI.” 4°. 1741. pp. 552. Tab. 85.

All the subjects of this volume were drawn, and engraved with his own hand. It comprehends all those plants which

* The names of several foreigners appear in this list; Dr. AMMAN, of the Imperial Academy of Sciences at *Petersburgh*; Olaus CELSIUS, Professor of Divinity at *Upsal*; Dr. J. Frederick GRONOVIIUS, of *Leyden*; Dr. HALLER, Professor at *Gottingen*; and LINNÆUS himself.

come under the name of *Musci* and *Algæ* in the *Cryptogamia* class of the sexual system, except the *Fucuses*, some of the *Ulvæ*, *Conservæ*, and a very few others. The author's method is throughout as follows; at the head of each genus he gives the etymology of the name; his reasons for adopting that name, and applying it to the subject; then the definition of his genus, followed by the subordinate distinctions for the arrangement of the species.

In treating on each species, he gives, 1. A new specific character, in terms intended to distinguish it from others of the same genus, or subdivision: 2. The description of the species at length; distinguishing also, with great care, the several varieties; and referring each to the several figures on his plates. 3. The general places of growth; and under the more rare species, the particular places where they have been found, or from whence he had received them: to these is subjoined the time when each is found in heads, or in its most flourishing state. 4. The synonym of every author at length, disposed in chronological order;

noticing at the same time such as are referable to varieties ; and frequently subjoining a number of critical observations. 5. The uses of particular kinds, whether in the general œconomy of nature, or in medicine, or the other arts and conveniences of life. A summary view of the uses of several kinds appears in the preface ; but in the body of the work, DILLENIUS has, with great diligence, collected numerous authorities on these heads ; which sufficiently evince, that this almost unnoticed tribe of vegetables hold a more considerable importance * in the scale of utility, than a superficial view may suggest.

When

* Numerous proofs of the truth of this observation occur in the various writings of modern botanists. I refer the reader to the *Flora Lapponica*, and *Succica* ; to HALLER's *Historia Stirpium Helvetiæ* ; to the *Amœnitates Academicæ* ; particularly to those papers under the titles of *Oeconomia Naturæ*, and *Ufus Muscorum*. I may perhaps be allowed to refer also to a *Memoir*, which I was induced to collect some years ago on the *Lichens* alone, which was printed in the *Philosophical Transactions*, vol. 50. On the uses of the same genus, may also be consulted *Tentamen Historiæ Lichenum, et præsertim Prussicorum* of HAGEN, printed at *Koninsberg*, 1782. 8° ; but above all,

When we consider the minuteness of the objects of his investigation, the accuracy of his descriptions, the critical examination and nice discrimination of each species, the labour and skill the author has exhibited in the selection of the *synonyma*, and the disposition of them into chronological order, which is a highly meritorious part of the plan, "The History of *Mosses*" must be considered as a very extraordinary performance: and, notwithstanding any subsequent improvements in the arrangement of species, or in the reduction of them in consequence of more perfect observations, or even in the microscopical discoveries of HEDWIG respecting the *Genera*, DILLENIIUS's work must long be the basis of knowledge in this part of nature, and must remain with posterity as an almost unexampled instance of patience, ingenuity, and science, in the author. This work, moreover, possesses a superiority over every other botanical publica-

all, the *Memoires couronnés en l'année 1786, par l'Academie des Sciences, Belles Lettres et Arts de Lyons, sur l'Utilité des Lichens dans la Médecine et dans les Arts, par M. M. HOFFMAN, AMOREUX fils, et WILLEMET, 1787. 8°.*

tion that I am acquainted with, in having a complete index of the *synonymia* at length. An addition of the highest utility in works of this kind ! and which those who are conversant with the writings of LINNÆUS cannot but regret the want of, in the *Species Plantarum*.

The whole impression of DILLËNIUS's " Mosses " was only 250 copies, of which 50 were on imperial paper. The original edition having become extremely scarce*, an impression of the plates, with the names only annexed, was taken off in the year 1768, and published by John Millan. I here remark, that this was the first book printed in *England*, in which any of the *Linnæan* specific characters were exhibited. Both the *Flora Lapponica*, and the *Hortus Cliffortianus*, are quoted in this volume.

* Posterity will scarcely believe, that at the time of the publication of this work, and during the life of the author, the demand for books of natural history was so small in *England*, that one guinea was thought a sufficient price for this book. At this period, ten is not deemed too much ; and, not long since, a copy, with the plates coloured by DILLËNIUS himself, was sold for twenty guineas, or upwards.

There

There is little doubt that DILLENIIUS intended to have prosecuted the *Fungusses*, as he had done the *Mosses*; and he appears to have had this design in contemplation early after he came to *England*. In a letter, written in Dec. 1726, he informs his correspondent, that “He was busy in painting *Fungi*,” and makes this employment an apology for not answering his letters in due time. We know that he corresponded with Dr. DEERING on this subject; who was himself well skilled in the knowledge of these productions, and had painted a great number, some of which he communicated to the Professor.

I have been informed, that Dr. DILLENIIUS was of a corpulent habit of body: this circumstance, united to his close application to study, probably tended to shorten his days. He was seized with an apoplexy in the last week of March, 1747; and died on the 2d of April, in the 60th year of his age.

There is a portrait of him in the picture gallery, or school, at *Oxford*, in which he is represented in the academical habit;

with this inscription—*Jacobus DILLENII*, M.D. *Botanices Professor primus, in Academia Oxoniensi*; but I have never heard that any engraving was made from it*.

I have never been able to acquire that information my curiosity hath prompted me to wish for, relating to the domestic character, habits, temper, and dispositions of Dr. DILLENII. Of those whom I have conversed with, who were his contemporaries, I have learned, that he was modest, temperate, and gentle in all his conduct: that he was known to few who did not seek him; and, as might be expected, from the bent of his studies, and

* The drawings, dried plants, printed books and manuscripts, &c. of DILLENII, came into the hands of Dr. SEIDEL, as his executor, of whom Dr. SIBTHORP purchased them. Among these are all the *British Fungusses*, drawn and painted by DILLENII himself; besides a large collection of such non-descript *Fungi*, as were discovered subsequent to the publication of the *Synopsis*. Some drawings also of the more perfect plants, done by DILLENII, but many of them unfinished. DILLENII coloured some copies of the *Hortus Elthamensis* himself; one of which he presented to the Bodleian library. (*From information obligingly communicated by Dr. John SIBTHORP, the present learned Professor at Oxford*).

the close application he gave to them, that his habits were of the recluse kind. If it be allowable to form any opinions of men from the perusal of their letters, some that I have seen, written by him, would suggest, that he was naturally endowed with a placid disposition, improved by a philosophical calmness of mind, which secured him in a considerable degree from the effects of the incidental evils of life. I will at least lay before the reader, in the note *,

* ———“ For my little time, I have met with as many
 “ adversities, and misfortunes, as any body; which, by
 “ the help of exercise, amusement, and reading some of
 “ the Stoic philosophers, I have overcome; and am re-
 “ solved that nothing shall afflict me more. Many
 “ things here, as well as at my home, that hath happened
 “ to me, would cut down almost any body. But two
 “ days ago I had a letter, acquainting me with a very
 “ near relation's death, whom I was obliged to assist with
 “ money in his calamities, in order to set him up again
 “ in his business; and now this is all gone, and there
 “ is something more for me to pay, and which is not a
 “ little for *me*; but it does not at all affect me. I rather
 “ thank God that it is not worse. This is only one, and
 “ I have had harder strokes than this, and there lies still
 “ some upon me. Feb. 13, 1728.”

a transcript from one of his letters, written to a friend, labouring under the pressure of adverse fortune ; which seems to confirm this idea *.

* If in the commemoration of celebrated men, by the application of their names to new *genera*, any comparative dignity, or symbolical allusion, was ever to be observed, it became in the highest degree decent, that to DILLENIIUS should be appropriated one of the most splendid of the vegetable race. LINNÆUS had unquestionably this analogy in view, when he gave to this illustrious botanist the *Syalita* of the “ Malabar Garden ;” a *Polyandrous Tree*, distinguished for its beautiful large flowers and fine fruit, and not less for its considerable use in medicinal and œconomical purposes.

C H A P. 41.

Dr. Richardson—the correspondent of Sloane and of Dillenius—a diligent investigator of English plants—Communications to the Royal Society.

Brewer—the assistant of Dillenius in his Welch tour.

Harrison—his Herbarium of 4000 specimens.

Cole—another assistant and correspondent of Dillenius—makes a collection of English plants, and burns it.

RICHARDSON.

AMONG those whom DILLENIIUS has recorded in the preface to the third edition of RAY's *Synopsis*, and in his *Historia Muscorum*, as having amplified *English* botany, the names of the SHERARDS, and of Dr. RICHARDSON, obtain a superior distinction. The merit of Dr. RICHARDSON, both from his undoubted skill in the science, and his well known patronage of those who cherished it, demand a more particular commemoration than I am able to give ;
since

since I am unacquainted with any further circumstances relating to him, than that he was educated a physician, and lived at *North Bierly*, in *Yorkshire*. There he resided upon his own estate, which was ample enough to render the practice of physic totally unnecessary to his well-being, from any lucrative views. He had travelled into various parts of *England*, for the investigation of plants, and had been successful in his tour into *Wales*, having more especially made discoveries in the *Cryptogamia* class. His garden was well stored with exotics, and with a curious collection of *English* plants. He was happily situated to favour his possession of the latter, with which his store was replenished from time to time by the assistance of *Samuel BREWER*, and *Thomas KNOWLTON*, both instances of strong attachment to botanical pursuits, and both resident in the same county.

Dr. *RICHARDSON* lived in intimacy and correspondence with Sir *Hans SLOANE*, Dr. *DILLENIUS*, and other celebrated botanists of his time. I do not find that he published on his favourite amusement; but his
name

name occurs in the *Philosophical Transactions*, as author of the following papers.

On subterraneous Trees, or Fossil Wood, found at *Youlé*, near *York*. Vol. xix. p. 526.

Observations in Natural History in *Yorkshire*. A Boy who lived to seventeen years of age, without any Secretion of Urine, in whom Nature supplied this deficiency by a constant Diarrhœa. On the Trouts of the *Welch* Lakes; on the Ermine; the Nut-hatch; and the *Regulus Cristatus*; the *Helix Pomatia*. Vol. xxviii. p. 167.

A Relation of the Fall of a Water Spout in *Lancashire*, which tore up the ground seven feet deep, formed a deep gulph near half a mile in length, and destroyed the surface of ten acres of land. Vol. xxx. p. 1097.

A Letter from Dr. *Richard* RICHARDSON, F. R. S. to Sir *Hans* SLOANE, Bart. concerning the Voraciousness of the *Squilla Aquæ dulcis* in destroying the young Fry of Carp and Tench in Ponds. Vol. xxxviii. p. 331.

A Case from Mr. *William Wright*, Surgeon of *Bradford*, concerning a large Piece
of

of the Thigh Bone ($5\frac{1}{2}$ inches long) taken out, and its place supplied by a Callus.

Dr. RICHARDSON died at an advanced age, about the year 1740.

BREWER.

I reluctantly pass over the names of many others, mentioned in the *Synopsis*, whose services, although they were not writers on the subject, might justly call for respectful notice : but, not being able to produce any satisfactory or interesting anecdotes relating to them, I must content myself with referring the reader to a list of them, collected with no small pains, by the present Professor of Botany at *Cambridge*, and published in the Preface to his *Plantæ Cantabrigienses*.

Having however mentioned the name of *Samuel* BREWER, his connection with DILLENIIUS will not allow me to refuse a proper tribute to his memory; since his passion for *English* botany, and his skill and assiduity, enabled him to afford singular assistance to the Professor, particularly in the subjects for his “ *History of Mosses* ;” as in
some

some instances he had done in the *Synopsis*, for the plants of *Mendip* and *Chedder Rocks*.

He was originally of *Trowbridge*, in *Wilts*, in which county he had a small estate. He was engaged at one time in the woollen manufactory of that place; but, I believe, proved unsuccessful in business. He attended DILLENIUS into *Wales*, *Anglesey*, and the *Isle of Man*, in the summer of 1726; and afterwards remained the winter, and the greater part of the next year, in that country; making his residence at *Bangor*, and taking his excursions to *Snowdon* and elsewhere, often accompanied by the Rev. Mr. GREEN, and Mr. *William Jones*. While in *Wales*, it was intended that he should have gone over to *Ireland*, to make a botanical tour through that kingdom; but that expedition never took place. So long a residence gave him an opportunity not only of seeing the beauties of summer plants, but of collecting the *Cryptogamia* in winter, when they flourish most. Here he received instructions from the Professor, collected specimens of every thing rare,

rare, or unknown to him before, and sent them to DILLENIIUS, to determine the species, and fix the names. I have seen a catalogue of more than two hundred plants, many of which were ill ascertained before, all sent at one time, with the references to the *Synopsis* affixed by DILLENIIUS. This journey appears to have been designed to promote the “*Appendix to the Synopsis.*”

In 1728, Mr. BREWER went into *Yorkshire*, and resided, I believe, the remainder of his days at *Bradford*, in that county, in the neighbourhood of Dr. RICHARDSON, by whose beneficence he was assisted in various ways. After his retirement into *Yorkshire*, he meditated, and nearly finished, a work which was to have borne the title of “*The Botanical Guide;*” but it never appeared. I cannot determine the time of his decease, but am assured he was living in the year 1742.

HARRISON.

At a somewhat later period, we find the name of *Thomas* HARRISON, a tradesman at *Manchester*, who furnished DILLENIIUS

with specimens for his history. In his younger years he had collected a large *Herbarium*. I have been informed by one who inspected it in the year 1762, that it contained, at that time, near 4000 specimens, including both exotic and indigenous plants. Among the latter, the *Filices* were the most complete part; the other *Cryptogamia* being but few, and the collection in general not rich in *British* species. In order to accommodate the specimens to the largest sized paper, luxuriant plants of the smaller kinds had been chosen; a circumstance disadvantageous to the distinctions of such plants.

Mr. HARRISON'S *Herbarium* hath, I believe, since been purchased, at a considerable price, and is deposited in the *Manchester* library.

C O L E.

Mr. *Thomas* COLE, another of the correspondents of DILLENIIUS, was a dissenting minister at *Gloucester*, of whom I have heard the following anecdote: That he had collected an *Herbarium*, which, in a flight of religious

religious zeal, and repentance, at having mispent his time in accumulating, he committed to the flames. Mr. COLE certainly forgot, at that moment, that the key to useful science is the knowledge of things. To collect the productions of nature, in order to admire and contemplate in his works the great Author of all, is in itself surely not only innocent, but laudable; and, when the view is extended to the utility of man, still more meritorious. If the sight of Mr. COLE's collection might teach but one peasant to distinguish that plant, which could alleviate his own, or the affliction of his neighbour, or his friend, surely it had not been made in vain.

C H A P. 42.

Rise of Botany in Ireland — Boate — Heaton — Silliard — Molyneux — Llhwyd and Sherard, all prior to Threlkeld.

Memoirs of Threlkeld—His Synopsis Stirpium Hibernicarum—An account of that work — Ireland not sufficiently examined.

Keogh's Herbal—Smith's County Histories.

I R I S H B O T A N Y.

IRELAND has been so little distinguished for the production of writers on the subject of these sketches, that it has not been in my power, till this late period, to introduce to the reader's notice, any professed work on the *Flora* of that kingdom. The distracted state of the country, during a great part of the last century, had doubtless no small share in retarding the progress of learning and science among the *Irish*. It does not appear, that, until the middle of that period, any enquiries had been made even into the natural history of the country in general.

Gerard BOATE, a *Dutch* physician, began “*Ireland’s Natural History*,” which was published by Samuel HARTLIB in 1652, 12°. Of this the 10th, 11th, and 12th chapters treat on Agriculture. But the second part of the work, in which the author intended to have given the Vegetables, was never published; if indeed it was ever written.

There is a Mr. Zanche SILLIARD, an apothecary of *Dublin*, mentioned by PARKINSON, who seems to have possessed some botanical knowledge. But the earliest intelligence that I can find of any real botanist, a native of *Ireland*, is of a Mr. HEATON, a divine, who lived at *Dublin*. I cannot collect any anecdotes of him; but I find his name attached, as the first discoverer, to many plants in How’s *Phytologia*, and to some in MERRETT’S *Pinax*; and, from the number and rarity of the subjects recorded, he must have been a person of considerable knowledge in his way. It appears from the same authorities, that he had been much in *England*, having pointed out the natural places of many rare plants of

of this country. He is thought to have left a manuscript on the subject, which it is conjectured was written about the year 1641, and from which THRELKELD took the *Irish* names of plants, who says, they were much more copious and exact than he could collect from any living authority. In the number of plants, it greatly exceeds any list we have extant of the old *British* names, or of those in the *Erse* tongue, among the *Highlanders*.

Towards the latter end of the century, some information was received relating to the natural history of *Ireland*, from the tour of Dr. LLHWYD, as recorded in the *Philosophical Transactions*; and Dr. William SHEPARD, on his visits to Sir Arthur RAWDON, at *Moyra*, noticed many of the rare plants of that region.

Soon after this time, the establishment of the *Philosophical Society* at *Dublin* contributed to advance, among other sciences, that of natural history; and, of those who exerted themselves to promote these pursuits, were the two brothers, Dr. *William* and Dr. *Thomas* MOLYNEUX. Their

papers are numerous, and are extant in the *Philosophical Transactions*.

Dr. *Thomas* MOLYNEUX was professor of physic in the university of *Dublin*, and physician to the state, and to the army. About the beginning of this century, he drew up some account of the spontaneous vegetables of *Ireland*; which evidence, that he had applied to the study in a scientific manner.

He communicated his papers to Dr. THRELKELD, who incorporated some of them into the body of his *Synopsis*, and placed the remainder at the end. Of Dr. THRELKELD I now proceed to give some account.

THRELKELD.

Caleb THRELKELD, the author of the first treatise on the plants of *Ireland*, was born the 31st of May, 1676, at *Keiberg*, in the parish of *Kirkoswald*, in *Cumberland*. In the year 1698, he commenced master of arts in the university of *Glasgow*, and soon after settled at *Low Huddlesceugh*, near the place of his birth, in the character of a dissenting minister. He had acquired a
taste

taste for botany and phyfic during his residence at *Glasgow*; and continued to make a considerable progress in these studies, in-
somuch, that, in 1712, he took a doctor's degree in phyfic at *Edinburgh*; and the next spring, having a straight income, and a large family, he removed to *Dublin*, and settled there in the united character of the divine, and physician. Finding himself likely to succeed, in little more than a year, he sent for his family, consisting of a wife, three sons, and three daughters. His practice as a physician, soon increased, so far as to enable him to drop his other character entirely, and devote himself wholly to phyfic. In 1727, he published his "SYNOPSIS STIRPIUM HIBERNICARUM;" and died, after a short sickness, of a violent fever, at his house in *Mark's Alley, Frances Street*, April 28, 1728; and was buried in the new burial ground belonging to *St. Patrick's*, near *Cavan Street*; to which place his obsequies were attended by a set of children, educated by a society of gentlemen, to which institution he had acted as physician. And my memorialist adds, that he was much re-

gretted by the poor, to whom he had been, both as a man, and as a physician, a kind benefactor.

It does not appear that Dr. THRELKELD published any other work than the following, though he meditated a general history of plants :

“ SYNOPSIS STIRPIUM HIBERNICA-
 “ RUM, *alphabetice dispositarum; sive, Com-*
 “ *mentatio de Plantis indigenis, præsertim*
 “ *Dublinensibus instituta.* Being a short
 “ Treatise of Native Plants, especially such
 “ as grow spontaneously in the vicinity of
 “ *Dublin* ; with their *Latin, English, and*
 “ *Irish* Names, and an Abridgment of their
 “ Virtues ; with several new Discoveries.
 “ With an Appendix of Observations made
 “ upon Plants, by Dr. MOLYNEUX, Phy-
 “ sician to the State in *Ireland.* The first
 “ Essay of the Kind in the Kingdom of
 “ *Ireland.* *Auctore* CALEB THRELKELD,
 “ M. D. *Dublin, 1727.*” 8°. pp. 262.

The author, after a dedication to the Archbishop of *Armagh*, and a preface, which, though written in a quaint stile, proves him to have been a man of some
 erudition

erudition in the science, enumerates all the plants he had observed in the environs of *Dublin*, and of all such as he had gained authentic intelligence, from other parts of the kingdom. He gives, first, the old *Latin* names, generally from *Caspar BAUHINE*'s *Pinax*; then the *English* name; and afterwards the *Irish*; subjoining some account of the quality of the plant, and its use in medicine, and œconomy.

He has moreover interspersed some curious observations: to instance, under the *Betula*, or Birch Tree, he says, “ The *Irish* grammarians remark, that all the names of the *Irish* letters, are names of trees.”

Under *Brassica*, he observes, “ That the word is only the *Celtic Praisseagh* put into a *Latin* termination; the *Latin* being no other than the *Celtic* language cloathed with the *Æolic* dialect, as *English* is the *Saxon* or *Dutch* language cloathed with *Normandy French*, as all antiquaries will allow.”

It is observable, that THRELKELD notices the good effects of the *Lythrum Salicaria*, in a dysentery: a simple since his

time so strongly recommended by *De HAEN* * in the same disorder ; and in obstinate diarrhœas. He also speaks in high terms, and from his own experience, of the powers usually attributed to the *Menyanthes trifoliata*, or Bog-bean. He quotes from Dr. VAUGHAN a case of the fatal effect of the Mackenbay, or *Euphorbia Hyberna*. Dr. MOLYNEUX has observed, that the *Genista spinosa*, or Whins (*Ulex europæus* Lin.) although common in other parts of Ireland, is not seen in the province of Connaught. A singular fact, if the observation be sufficiently accurate.

In the *Appendix*, printed from the papers of Dr. MOLYNEUX, the reader meets with several curious observations. Among others, an instance of the effects of the roots of common Henbane upon several persons, who having eaten them instead of skirrets, were affected with vertiginous symptoms, and in one case a frenzy ensued, which held the person two or three days. The work concludes with the *Index* of Irish names of

* See *Rationis Medendi*, vol. i. p. 226. 357.

plants, from the manuscript supposed to have been written, as heretofore observed, by Mr. HEATON.

THRELKELD'S *Flora* is not rich in the number of plants, since it does not contain more than 535 species. The author appears to have been better acquainted with the history of plants than with plants themselves; and seems not to have studied botany in a systematic way, as may be inferred from his strictures on the third edition of RAY'S *Synopsis*, noticed under the article DILLENIIUS.

K E O G H.

“ *Botanologia Universalis Hibernica* ; or, A
 “ General *Irish* Herbal, calculated for this
 “ Kingdom ; giving an Account of the
 “ Herbs, Shrubs, and Trees, naturally pro-
 “ duced therein, in *English*, *Irish*, and *La-*
 “ *tin* ; with a true Description of them,
 “ and their Medicinal Virtues and Qualities.
 “ By *John* KEOGH, A.B. Chaplain to the
 “ Right Hon. the Lord *Kingston*. *Corke*.
 “ 1735.” 4°.

Not

Not having seen this work, I cannot give the reader any further information relating to it.

SMITH'S HISTORIES.

In the *County Histories of Ireland*, published under the direction of the Physico-historical Society of *Dublin* by Charles SMITH, we meet with catalogues of the rare plants in each district. These lists, however, not being drawn up with sufficient knowledge of the subject, want that authenticity, which the critical botanist would expect, and have not greatly enlarged the botany of *Ireland*.

In that of "The antient and present State of the County of *Down*," 1744, 8°, the author speaks of the *Savin* as indigenous—a privilege which will scarcely be allowed to it in that kingdom; although Dr. MOLYNEUX, and after him THRELKELD, had recorded it. When it is recollected for what nefarious purposes it was originally introduced into many gardens, it may readily be conjectured to be the perpetuated offspring
2 of

of original culture, in a favourable situation.

In that of "The County of *Waterford*," many very common plants, and a considerable number of the marine species. There occurs also a case, confirming the poisonous quality of the *Hemlock Dropwort*.

In that of "The County of *Cork*," 1750, 2 vols. 8°, several of the *Alpine*, and other rare plants, occur; such are the *Dryas octopetala*, *Sedum dasyphyllum*, *Euphorbia hiberna*: but what will the critical botanist say, when he sees in this list the *Androsæmum Ascyron*!

Ireland may with reason be proud to enumerate, among its choice productions of *Flora*, the *Arbutus* of Killarney; nevertheless, its right as an aboriginal, is with great probability of truth contested by Mr. SMITH, in his "History of the County of *Kerry*," 1756, 8°; in which he considers it as having been introduced by the Monks of *St. Finnian*, who founded the abbey in the sixth century.

I conclude my remarks on *Irish* botany with observing, that the varied clime, the
different

different site of the country throughout *Ireland*; its mountains, lakes, creeks, and moors, unquestionably afford scope to a great variety of vegetables; and the poverty of THRELKELD'S *Flora* has left a rich harvest to the *Irish* botanist: for, notwithstanding the considerable time elapsed since the publication of his book, and the laudable attempts of the *Dublin* Society, I know not that *Ireland* has since been examined by any person of acknowledged abilities in the science. What might not such an adventurer expect, from a country, which nurtures on its mountains the *Andromeda Dabæcia*, the *Dryas octopetala*, and the *Saxifraga umbrosa* of the *Alps*; and, on the borders of its enchanting lakes, the *Arbutus Unedo* of *Greece*.

C H A P. 43.

Martyn—*Memoirs of*—*With* Dillenius *establishes*
a botanical society in London—Chosen Fellow of
the Royal Society, and Professor of Botany at Cam-
bridge—Reads lectures on the Materia Medica
—Presents his botanical library and Herbarium
to the University—Writings—Tabulæ Synopti-
cæ—Methodus Plantarum—Decades quinque
—Translation from Tournefort—His Virgil.

M A R T Y N.

AT the dawn of learning, the seeds of
 botany had been first sown in *Eng-*
land, by Dr. TURNER, at *Cambridge*. They
 can scarcely, however, be said to have ger-
 minated, until a century afterwards, under
 the fostering care of Mr. RAY. By his
 cultivation, they took root, although not
 invigorated by public support. In the mean
 time, through the munificence of the Earl
 of DANBY, *Oxford* experienced the benefit
 of a public institution in aid of this science,
 and botany flourished under the care of Mo-

RISON.

RISON. After his time, to the establishment of DILLENIIUS, it languished; no publication marked its progress; and its history at *Oxford* is void of interesting facts. Nearly the same languor prevailed after the time of Mr. RAY at *Cambridge*, and botany attained no strength till the time of Dr. MARTYN, who, under the patronage of the university, gave the first public lecture in that department, in the year 1727.

Of this learned botanist, I am now, in the order of time, to present the reader with some account: and here I find myself agreeably anticipated by the relation of his life and writings, prefixed to his “*Dissertations on the Æneids of VIRGIL*,” printed in 1770, 12°, and drawn up by his most respectable son, and successor in the professorship; with whose friendship and correspondence, I have on this occasion a sincere pleasure in acknowledging, I have long been honoured. Hence I shall briefly recite from these anecdotes, only the leading circumstances in the life of Dr. MARTYN, as connected with his professorial character; and conclude with a short account of his botanical writings.

John

John MARTYN was born in the city of *London*, Sept. 12, 1699, and was designed by his father for the profession of a merchant; but his early and strong propensity to learning and science, in the end over-ruled that design. He had from his youth an attachment to botany; and this taste was further excited by his acquaintance with Mr. WILMER, afterwards demonstrator at *Chelsea* Garden; and confirmed by an intimacy with, and the countenance of, Dr. SHERARD, in the year 1719. In the year 1720, he translated from the *French*, Dr. TOURNEFORT's "History of the Plants growing about *Paris*;" and having projected a like catalogue of the plants about *London*, he collected, with unwearied diligence, the native plants of the environs; making for this purpose sometimes very extensive excursions, and almost ever on foot. He had once conceived a scheme for forming a method from the *Seed-leaves*, and had sown a great number of seeds in order to observe the difference between them. He early became acquainted with DILLENIUS, and co-operated with him in forming a society

ciety of botanists, which consisted of seventeen members. This society kept together till the year 1726. He continued, during the years 1723 and 1724, to make his excursions in search of plants more frequent, and extended them farther, into *Middlesex, Surrey, Essex, and Kent*. At the same time he studied Insects, continued his observations on the Seed-leaves, and made many others on the Sexes of Plants. He had, several years before this time, translated from the *Latin*, an ode on that subject, presented to CAMERARIUS, and printed in that Author's epistle *De Sexu Plantarum*. The translation may be seen in BLAIR's "Botanic Essays."

In the summer of 1724, he travelled into *Wales*, by *Bath* and *Bristol*, returning by *Hereford, Worcester, and Oxford*; by which he extended the objects of his studies, and augmented his collection of *English* plants; inasmuch, that at length it comprehended 1400 specimens.

In 1725 and 1726, he read lectures in botany in *London*, and was recommended by Dr. SHERARD and Sir *Hans SLOANE* to exercise the same function at *Cambridge*; where,

where, on the death of BRADLEY, he was chosen Professor of Botany; and continued to give lectures for several years, until the want of a garden, and his long absence from the business of physic, which he had engaged in, rendered it incommodious to him.

In 1727, Dr. MARTYN was admitted a member of the Royal Society; and was so active in the committee for regulating the library and museum, in 1731, that he had his bond for annual payment cancelled by an order of council, as an acknowledgment of his services.

In 1730, he was admitted of *Emanuel* College, with an intention to have proceeded regularly with the degrees in physic; but his marriage, and his attention to the practice of the profession, prevented him from finishing his design. In the meantime, he read lectures in Botany and the *Materia Medica*, both at *Cambridge* and in *London*, in the years 1730 and 1731. In the beginning of the year 1733, he was elected Professor of Botany by the unanimous voice of the university.

Dr. MARTYN had practised physick for three years in the city, but on account of an asthmatic complaint, removed in the year 1730 to *Chelsea*; where he continued the exercise of that profession, until his retirement to *Streatham*, in 1752. In 1761, he resigned his professorship; and soon after, in gratitude for the favour of having chosen him, and his son after him, to this post, he presented to the university his botanical library, consisting of upwards of 200 volumes; his *Hortus Siccus* of Exotics, containing 2600 specimens; near 250 drawings of *Fungi*; his collection of Seeds, and Seed Vessels; and his *Materia Medica*.

He removed to *Chelsea* about a year before his death; which event took place on the 29th of January, 1768.

The Professor was the author of the following publications:

TABULÆ SYNOPTICÆ *Plantarum Officinalium ad Methodum Raianam dispositæ*. 1726. fol. pp. 20. Dedicated to Sir *Hans SLOANE*.

METHODUS PLANTARUM circa *Cantabrigiam nascentium*. 1727. 12°. pp. 132.

This

This is Mr. RAY's Alphabetical Catalogue, reduced to the order of his system, with the generic characters taken from RAY's *Methodus emendata et aucta*, from VAILLANT, DILLENIIUS, SCHEUCHZER, and others, much improved and corrected by Mr. MARTYN's own observations. All the plants of Mr. RAY's two *Appendices*, of 1663 and 1685, now become extremely rare, amounting to 84 species, are inserted in this manual, which was printed for the use of his pupils, on his first reading lectures at *Cambridge*. A sheet and an half of a new edition, containing more than 150 species, not contained in RAY's Catalogue, was printed as part of a new edition; but it was not carried farther: these were, *Submarine Plants*, *Funguses*, *Mosses*, *Capillaries*, *Apetalous* and *Juliferous Plants*. And, as the genius of RAY still continued to animate his successors, the *Cambridge Flora* has since been much augmented and improved, not only by the skill and assiduity of the present Professor, and the labours of the late Mr. LYONS, but more recently still, by the

diligent researches and accurate discriminations of the Rev. Mr. RELHAN.

HISTORIA PLANTARUM RARIORUM *Decades quinque*. Fol. max. 1728—1732. This was the most sumptuous and magnificent work of the kind, that had ever been attempted in *England*. It was dedicated to the Royal Society, and was designed to contain such curious plants, as had not been figured before, in their natural size and colours; with the descriptions, and the culture and uses. The extraordinary expence of this work prevented its progress. The plates were mezzotinto, and printed in proper colours. These Decads, among many other rarities, contain several *Gerania*, the *Milleria*, *Martynia*, *Gronovia*, *Turnera*, several *Passifloræ*, *Cassia*, and many *North-American* plants.

In 1729, having entertained a design of reading a course of lectures at *Oxford*, he published “The first Lecture of a Course of Botany, being an Introduction to the rest.” 8°. 1729. pp. 24. tab. 84. It is an explanation of the technical terms of the science.

In

In the year 1720, Dr. MARTYN, as hath been observed, had made a Translation of TOURNEFORT's "History of Plants about *Paris*;" and at the same time meditated a Catalogue of those of the environs of *London*. The latter was never finished; nor was the Translation published, till twelve years afterwards, when it appeared under the following title: "TOURNEFORT's History of Plants growing about *Paris*, with their Uses in Physic; and a Mechanical Account of the Operation of Medicines. Translated into *English*, with many Additions, and accommodated to the Plants growing in *Great Britain*." In 2 vols. 8°. 1732.

"The Six Alphabets" of TOURNEFORT are reduced into one; all the useful observations, both from the edition which came out by the united care of SHERARD and BOERHAAVE, and from that which was published by *Bernard de JUSSIEU*, are extracted. The Translator added also the *English* names, and the places where the plants grow in *England*. He disposed the *Mosses* according to DILLENIUS's method;

and the *Mushrooms* and *Capillary Plants*, after a new method of his own.

Of the papers published by Dr. MARTYN, in the *Philosophical Transactions*, the following have relation to the subject of this work.

Rare Plants observed in a Journey into the Peak of *Derbyshire*. N° 407. Vol. xxxvi. p. 22 and 28. In this paper, the Author has taken occasion to separate the *Lactuca sylvestris murorum flore luteo* of BAUHINE and RAY from that genus, and gives it the name of *Scariola*. LINNÆUS justifies the distinction, but calls the genus *Phrenanthus*.

An Account of a new Species of *Fungus*. N° 475. Vol. xliii. p. 263 ; with a Figure, Dr. MARTYN classed this singular production among the *Boleti*. He takes the opportunity, in this paper, of exhibiting a Synoptical Table of his distribution of the whole order of *Fungi*: of which it is sufficient to say, that it does not materially differ from that of DILLENIUS. The figure was copied in BLACKSTONE'S *Specimen Botanicum*; and the *Fungus* has been considered

dered by the author of the *Flora Anglica*, as a variety of the *Clavaria Hypoxylon* Lin.

A Remark concerning the Sex of Holly. Vol. xlviii. p. 613. Dr. MARTYN first observed the Holly Tree to be *Dioecious*, in his own garden at *Streatham*, in *Surry*. Dr. WATSON, Mr. MILLER, and subsequent botanists, not only found his observations true, but discovered, that the same trees bore also hermaphrodite flowers. This occasioned the removal of it, in the *Flora Anglica*, to the class *Polygamia*. But as it does not appear that the remaining species of the *Ilex* are subject to the same change, the genus stands in the works of LINNÆUS in the *Tetrandrous* class as before.

It is not without the strictest justice that the term indefatigable is applied to this learned man. His avocations from business were wholly devoted to the cause of literature, which he contributed to serve in various ways. The numerous works he was engaged in, and the variety of his manuscript remains, amply testify this truth. At one time he was concerned in a periodical paper. He was a coadjutor with Mr. EAMES,

in abridging the *Philosophical Transactions*; and was employed in writing the first three volumes of the “General Dictionary,” in which the lives of BELLONIUS, BOCCONE, and BRUNSFELSIUS, were written by him. He translated BOERHAAVE’s “Treatise on the Powers of Medicine;” HARRIS’s “Treatise on the Acute Diseases of Infants;” and, jointly with Mr. CHAMBERS, gave, in 5 volumes in octavo, in 1742, a Translation, or rather an “Abridgment of Philosophical Papers, from the Memoirs of the Royal Academy of Sciences at *Paris*.”

Dr. MARTYN was the author of thirteen papers, printed in the *Philosophical Transactions*. His Translation of the *Georgics* and *Bucolics* of VIRGIL, with his notes upon this his favourite poet, hath extended his fame among the learned of all nations. To the classical reader in general, they afford ample satisfaction; but to those who join to such elegant enjoyment, a knowledge of the learned Editor’s favourite science, these volumes must afford a gratification, which they will in vain seek for elsewhere. His great knowledge both of antient and modern

dern science, relating to plants, enabled him to appropriate the modern appellations, with a degree of judgment, that has been highly approved of by those who know the difficulty of the undertaking, under that almost total want of specific distinction, which occurs in the writings of the ancients.

In the year 1737, our Author entered into correspondence with LINNÆUS. It is one of those notices that can only occur to a lover of similar studies, that he was, if not the first, at least one of the earliest *English* writers, who announced the northern genius to the *British* reader. This was done by the Professor's extract from the *Flora Lapponica*, printed in the edition of the *Georgics* in 1741. It was some years afterwards, before the system of the *Swede* made any progress in *England*.

I shall only remark further, that besides the obligations which literature in general owes to this learned Professor, that which I call more strictly *English* botany, received considerable augmentation from his labours; particularly from his methodizing "The
" *Cambridge*

“*Cambridge Catalogue*” of Mr. RAY, and from the additions he made to his Translation of TOURNEFORT’S book *.

* The name of *Martynia* was given to a fine plant of the second order in the *Didynamous* class, by Dr. HOUSTON, who discovered it on the continent of *America*. It is well known at present as an ornament to the *English* stoves.

C H A P. 44.

Catesby—Memoirs of—His strong attachment to natural history—Resides first in Virginia seven years—and, encouraged afterwards by Sir Hans Sloane and others, returns to America—Natural history of Carolina—On birds of passage.

C A T E S B Y.

ALTHOUGH the ingenious author, whom I commemorate in this chapter, does not strictly rank among the improvers of indigenous botany ; yet I cannot pass over in silence, a man, to whom the science owes one of its most elegant, and superb productions. Mr. *Mark* CATESBY was, I believe, one of those men, whom a passion for natural history very early allured from the interesting pursuits of life ; and it led him at length to cross the *Atlantic*, that he might read the volume of nature in a country but imperfectly explored, and where her beauties were displayed in a
more

more extended and magnificent scale, than the narrow bounds of his native country exhibited. It is but too true, that the world at large will for ever treat with ridicule and disdain that man, who, thus deserting the paths that lead to riches, to preferment, or to honour, gives himself up to what are commonly deemed unimportant and trifling occupations. Few will give him credit for that secret satisfaction, for that inexhaustible pleasure, which the investigation of nature, in all her objects, incessantly holds forth to his mind; or believe, that such employment can possibly compensate for the solid treasures of gain.

Mark CATESBY was born about the latter end of 1679, or the beginning of the next year. He acquaints us himself, that he had very early a propensity to the study of nature; and that his wish for higher gratifications in this way, first led him to *London*, which he emphatically styles “the center of science;” and afterwards impelled him to seek further sources, in distant parts of the globe. The residence of some relations

lations in *Virginia* favoured his design; and he went to that country in 1712, where he staid seven years, admiring, and collecting the various productions of the country, without having laid any direct plan for the work he afterwards accomplished. During this residence, he communicated seeds and specimens of plants, both dried, and in a growing state, to Mr. DALE, of *Braintree*, in *Essex*; and, some of his observations on the country, being communicated by this means to Dr. *William SHERARD*, procured him the friendship and patronage of that gentleman. On his return to *England*, in 1719, he was encouraged by the assistance of several of the nobility, of Sir *Hans SLOANE*, Dr. *SHERARD*, and other naturalists, whose names he has recorded, to return to *America*, with the professed design of describing, delineating, and painting the more curious objects of nature. *Carolina* was fixed on, as the place of his residence, where he arrived in May 1722. He first examined the lower parts of the country, making excursions from *Charles Town*;
and

and afterwards sojourned, for some time, among the *Indians* in the mountainous regions at and about *Fort Moore*. He then extended his researches through *Georgia* and *Florida*; and having spent nearly three years on the continent, he visited the *Bahama Islands*, taking his residence in the *Isle of Providence*; carrying on his plan, and particularly making collections of fishes, and submarine productions.

On his return to *England*, in the year 1726, his labours having met with the approbation of his patrons, Mr. CATESBY made himself master of the art of Etching; and, retiring to *Hoxton*, employed himself in carrying on his great work, which he published in numbers of twenty plants each. The first appeared in the latter end of the year 1730; and the first volume, consisting of 100 plates, was finished in 1732; the second, in 1743; and the Appendix, of twenty plates, in the year 1748.

A regular account of each number, written by Dr. *Cromwell* MORTIMER, Secretary of the Royal Society, was laid before the
Society

Society as it appeared, and printed in the *Philosophical Transactions*; in which the Doctor has sometimes interspersed illustrative observations. See N° 415. 420. 426. for Vol. i.; N° 432. 438. 441. 449. 484. for Vol. ii.; and N° 486. for the Appendix.

The whole work bears the following title: “ The Natural History of *Carolina*,
 “ *Florida*, and the *Bahama Islands*; con-
 “ taining the Figures of Birds, Beasts,
 “ Fishes, Serpents, Insects, and Plants;
 “ particularly the Forest Trees, Shrubs,
 “ and Plants, not hitherto described, or
 “ very incorrectly figured by Authors; to-
 “ gether with their Descriptions, in *French*
 “ and *English*. To which are added, Ob-
 “ servations on the Air, Soil, and Waters:
 “ With Remarks upon Agriculture, Grain,
 “ Pulse, Roots. To the whole is pre-
 “ fixed a new and correct Map of the
 “ Countries treated of.” By Mark CATES-
 BY, F. R. S. *Tom. I.* 1731. pp. 100. tab.
 100. *Tom. II.* 1743. pp. 100. tab. 100.
Account of Carolina, &c. pp. 44. Appen-
 dix,

dix, tab. 20. pp. 20. *Fol. imperial*, fig. 407.

The number of subjects described and figured in this work stands as below :

Plants	-	-	171
Quadrupeds	-	-	9
Birds	-	-	111
Amphibia	-	-	33
Fishes	-	-	46
Insects	-	-	31

In this splendid performance, the curious are gratified with the figures of many of the most beautiful trees, shrubs, and herbaceous plants, that adorn the gardens of the present time. Many also of the most useful in the arts, and conveniences of life, and several of those used in medicine, are here for the first time exhibited in the true proportion, and natural colours. It is only to be regretted, that, in this work, a separate exhibition of the flower in all its parts should be wanting; in defect of which, several curious articles have not been ascertained. It is a requisite of modern date, and without

but it, every figure, especially of a new species, must be deemed imperfect.

Most of the plates of plants exhibit also some subject of the animal kingdom. To these my plan does not extend; but I will in the note *, enumerate some of the most remarkable of the vegetable class. As Mr.

CATESBY

* I. Of those used in food or medicine, I select the following: The Chinkapin, *Fagus pumila*; the nuts of which are preferred to chesnuts, and stored by the *Indians* for winter food. The live Oak, *Quercus Phellos* β. of which the acorns yield an oil not inferior to that of Almonds. The Snake-root; *Aristolochia Virginiana*; well known in medicine. The May-apple, *Podophyllum peltatum*; used as ipecacuanha in *Carolina*. The Hicory tree, *Juglans alba*; the nuts afford excellent winter provision among the *Indians*, and yield fine oil; the young wood preferred for hoops, and the old for fire-wood. The China root of *Carolina*, *Smilax Tamnoides*. Sassafras-tree, *Laurus Sassafras*; used in *Virginia* for intermittents. The Cocco, and Tyre, *Arum Colocasia*; of which the roots are eaten by the Negroes, after destroying the acrimony by boiling. Ilathera Bark, *Croton Castorilla*. Laurel-leaved Canella, *Canella alba*; well known in the shops, and used as Winter's bark. The Cassena, or Yapon of the *Indians*, *Prinos glaber*; in great repute as a restorative. The *Virginian* Potatoe or Battatas, *Convolvulus Battatas*; of general use as food among Whites as

CATESBY etched all the figures himself, from his own paintings, and the coloured copies were at first done under his own inspection, and wherever it was possible, every subject in its natural size, this work was the most splendid of its kind that *England* had ever produced. I do not know that it had

well as Negroes. Marsh Custard Apple, *Annona palustris*: Indian Pink, *Spigelia marilandica*, of the shops. Rice Plant, *Oryza sativa*. Netted Custard Apple, *Annona reticulata*. Wild Pine, or *Tillandsia polystachia*; a parasitical plant, remarkable for holding a large quantity of water in the hollow of the leaves. Mangrove Grape-tree, *Coccoloba uvifera*. Cacao, or Chocolate-tree, *Theobroma Cacao*. Vanelloe, *Epidendrum vanilla*. Cashew Nut, *Anacardium occidentale*. Ginseng, *Panax quinquefolium*; the famous Ninfin of the *Chinese*.

II. Of such as more immediately respect the common conveniences of life, are, The Cypress of *America*, *Cupressus disticha*; the tallest and largest of the *American* trees, 9 or 10 feet in diameter at the ground, and 60 or 70 high, affording a light but excellent timber. The purple Bindweed of *Carolina*, said to be one of the plants the *Indians* use to guard against the venom of the Rattlesnake. The water Tupelo, *Nyssa aquatica*; the root supplies the place of corks. The Red Bay, *Laurus Borbonia*; the wood excellent for cabinets, and beautiful as satin-wood. Candle-berry Myrtle, *Myrica cerifera*; the green wax boiled

had been equalled on the continent, unless by that of Madam MERIAN, which, however, falls greatly short in extent. Seventy-two Plates of CATESBY's work were copied by the Nuremberg artists, and published in 1750. His "Observations on Carolina, &c." were separately printed in folio, at the same place, in 1767.

Mr.

boiled from the berries with one-fourth of tallow, form candles which burn long, and yield a grateful smell. Soap-wood, *Sapindus saponaria*; the bark and leaves beaten in a mortar, produces a lather used as soap. Glau-cous *Mimosa*; used as sattin-wood. Brasiletto wood, *Cæsalpinia Brasiliensis*; a well-known dye. The Mangrove-tree, *Rhizophora Mangle*; forming almost impenetrable woods, the recesses of turtle, fishes, and of young alligators. The sweet Gum-tree, *Liquidambar styraciflua*; yielding a fragrant gum, like the Tolu Balsam; the wood adapted to cabinet-making. Logwood, *Hæmatoxylon campechianum*. Mahogany-tree, *Swietenia Mahagoni*.

III. Of the ornamental kind, are, The Dogwood-tree, *Cornus florida*; singular for the gradual growth of the petals, which, after the opening of the flower, expand from the breadth of a sixpence to that of a man's hand. The sweet flowering Bay, *Magnolia glauca*. The blue Trumpet-flower, *Bignonia cærulea*. Loblolly Bay, *Gor-donia Lasianthus*. Carolina All-spice, *Calycanthus floridus*. Tulip-tree, *Liriodendron Tulipifera*. Catalpa-tree, *Bigno-*

Mr. CATESBY was the author of a paper, printed in the forty-fourth volume of the *Philosophical Transactions*, p. 435, “On Birds of Passage;” in which, in opposition to the opinion that birds lie torpid in caverns, and at the bottom of waters, he produces a variety of reasons, and several facts,

nia Catalpa; unknown in *Carolina*, till Mr. CATESBY brought it from the remoter inland parts. Sessile flowered *Trillium*. Viscous *Azalea*. Small ash-leaved Trumpet-flower, *Bignonia radicans*. The Fringe-tree, *Chionanthus Virginica*. Broad-leaved Sea-side Laurel, *Xylophylla latifolia*. Willow-leaved Bay, *Laurus æstivalis*. American *Callicarpa*. Herbaceous Coral-tree, *Ærythrina herbacea*. Yellow Martagon Lily, *Lilium superbum*. *Philadelphian*, or red Martagon Lily, *Lilium Philadelphicum*. Purple *Rudbeckia*. Laurel-leaved Magnolia, *Magnolia grandiflora*; the most superb fragrant flowering tree that ornaments our gardens. Yellow, and purple Side saddle Flower; *Sarracenia flava*, *purpurea*. Umbrella Magnolia, *Magnolia tripetala*. Climbing, or four-leaved Trumpet-flower; *Bignonia capreolata*. Lime-leaved *Hibiscus*. Red *Plumeria*. White *Plumeria*. Broad-leaved *Kalmia*. Balsam-tree, *Clusia rosea*. *Virginian* Cowslip, *Dodecatheon Meadia*. *Carolina* *Pancratium*. *Lilium Canadense*. *Atamaſco* Lily, *Amaryllis atamaſco*. Common *Stuartia Mulacodendron*. Blue Magnolia, *Magnolia acuminata*. *Rhododendron maximum*. And finally, the Lily-thorn, or CATESBÆA *spinosa*.

which his residence in *America* offered, in support of their migration in search of proper food. His voyages across the *Atlantic*, had taught him the ability of these wanderers to take long flights. He mentions, in another place, his having seen Hawks, Swallows, and a species of *Owl*, in 26 deg. of N. latitude, at the distance of 600 leagues from land. He shews, that birds unknown before to the country, find their way annually into various parts of *North America*, since the introduction of several kinds of grain: of this the Rice-bird, *Emberiza oryzivora*, and the white-faced Duck, *Anas discors*, are, among others, instances too sufficiently known and felt by the inhabitants.

Mr. CATESBY was elected a Fellow of the Royal Society soon after his second return from *America*, and lived in acquaintance and friendship with many of the most respectable members of that body; being “greatly esteemed for his modesty, ingenuity, and upright behaviour.”

Before his death, he removed from *Hoxton* to *Fulham*, and afterwards to *London*;

and died at his house behind *St. Luke's* church, in *Old Street*, Dec. 23, 1749, aged 70, leaving a widow and two children*.

His work has been re-published in 1754 and in 1771. To the last edition a *Linnæan* index has been annexed; but it is by no means so copious or perfect as a work of such merit and magnificence demands.

* Dr. GRONOVIVS called by the name of *Catesbea*, a thorny shrub of the *Tetrاندrous* class, bearing a long trumpet-shaped flower, succeeded by a yellow berry, which CATESBY first discovered in the *Isle of Providence*, and sent to *Europe* in the year 1726.

C H A P. 45.

Houston — *studied under Boerhaave — resident in the West Indies for some time — greatly augmented the Chelsea Garden with new plants — fell a sacrifice to the climate — The Reliquiæ Houstonianæ, published by Sir Joseph Banks.*

Douglas — *Surgeon to Queen Caroline — His description of the Guernsey Lily — Papers in the Philosophical Transactions.*

H O U S T O N.

THOSE who are conversant with the writings of MILLER, will recollect the frequent mention of the name of Dr. *William* H O U S T O N; and that the exotic botany of *England* was greatly enriched by his means. If I err not, Mr. H O U S T O N went first to the *West Indies*, in the character of a surgeon; and, upon his return, after two years residence at *Leyden*, took degrees in physic under B O E R H A A V E. This was in 1728 and 1729. At *Leyden*, he instituted a set of Experiments on Brutes; some

of which were made in concert with the late celebrated *Van SWIETEN*. They were afterwards published in the *Philosophical Transactions*, Vol. xxxix. under the title of “*Experimenta de Perforatione Thoracis, ejusque in Respiratione Effectibus.*” The result of which proved, contrary to the commonly received opinion, that animals could live and breathe for some time, although air was freely admitted into both cavities of the thorax.

It appears that he was elected a Fellow of the Royal Society soon after his return from *Holland*; and that he went immediately to the *West Indies*. I am not able to ascertain his fixed residence in that part of the world, although I conjecture, it was principally at the *Logwood Settlement*; from whence he sent a description and figure of the *Dorstenia Contrayerva*, which were published in the *Philosophical Transactions*, Vol. xxxvii. This was the first authentic account received of that drug, although known in *England* from the time of Sir *Francis DRAKE*, or earlier. He also sent to his friend at *Chelsea*, the seeds of many rare and
new

new plants, collected by him in the islands of *Jamaica* and *Cuba*; in the province of *Venezuela*, and about *Vera Crux*.

He fell a sacrifice to the heat of the climate, and died in July 1733. He left, in manuscript, a Catalogue of Plants, collected by himself in the places above mentioned; together with some engravings done by his own hand. These came into the hands of Mr. MILLER; and, after his decease, into the possession of Sir *Joseph Banks*, who, out of respect to the memory of so deserving a man, gratified the botanists with the publication of them, under the following title:

“*RELIQUIÆ HOUSTONIANÆ, seu Plantarum in America meridionali, à Gulielmo HOUSTON, M.D. R. S. S. collectarum Icones, manu propria, cere incisæ; cum Descriptionibus è Schedis ejusdem in Bibliotheca Josephi BANKS, Baronetti, R. S. P. asservatis.*” 4°. 1781. pp. 12. tab. xxvi.

They contain the characters and descriptions of fifteen genera, and eleven species; of which, the last were all natives of the country about *Vera Crux*. HOUSTON'S

new

new *genera* are described in the method and terms of TOURNEFORT's system; and all, except one, consecrated to the memory of botanists; and, in this publication, they are referred to the denominations of the *Linnean* system, as far as possible*.

DOUGLAS.

Of the *genera* constituted by HOUSTON, we find the *Douglassia*, in honour of James DOUGLAS, F.R.S. a celebrated surgeon and anatomist, afterwards M.D. and honorary Fellow of the College of Physicians, and Physician to Queen *Caroline*; whom it is just to introduce into these anecdotes, since he obtained a reputable rank among those, who in botany have been stiled "Monographers," from having separately written on a single species or genus. He published a very scientific description of the *Amaryllis farniensis*, under the title of "*Lilium farniense*;" or, a Description of the *Guernsey*

* The name of HOUSTONIA is given by GRONOVIVS to a *Tetrandrous* genus found in *Virginia*, known to the elder authors, and somewhat allied to the *Stellated* class of RAY.

“ Lily: to which is added, the Botanical
“ Dissection of the Coffee-berry.” Fol.
1725. pp. 35, and 22. *tab.* 2.

The roots of this beautiful ornament of our present stoves, were scattered from the wreck of a ship on the coast of that island; and being protected, as it has been thought, among the sand, by the Sea Reed, *Arundo arenaria*, after the interval of some years, sprung up, to the surprize of the inhabitants, and the delight of the florists and botanists. This phenomenon will appear less wonderful in our days, when it is known, from the elegant work of Dr. THUNBERG, that from the congeniality of climate between *England* and *Japan*, one-fourth part of the indigenous plants of that very distant country, appear to be also natives of *England*.

In his “ Observations on the Coffee,” Dr. DOUGLAS observes, that it was first mentioned by RAUWOLF in 1573, and first sent into *Europe* to CLUSIUS. See *Clus. Exotic.* p. 236.

Dr. DOUGLAS, besides many papers on Pathological and Surgical subjects, written between the years 1707 and 1732, which
were

were printed in the *Philosophical Transactions*, drew up “ A Botanical Description “ of the *Saffron* of the Shops ;” accompanied by a figure, which was also published in the same collections, Vol. xxxii. p. 441 ; and in Vol. xxxv. the most complete account to be met with concerning the “ Culture and Management of it,” as practised at *Saffron Walden*. In the same volume, “ An Account of the different “ Kinds of *Ipecacuanha* ;” the true distinctions of which were at that time but little understood.

The knowledge of Dr. DOUGLAS was not confined to exotic botany : he was acquainted with the plants of his own country ; and his name occurs in RAY’s *Synopsis* ; as having noticed some rare species *.

* The DOUGLASSIA is lost in the *Linnæan* system, under the appellation of *Volkameria aculeata* ; being an old plant of the *Didynamous* class, described by SLOANE.

C H A P. 46.

Increasing cultivation of exotics — Superior skill of English gardeners — Fairchild — Knowlton — Gordon.

Miller — *Anecdotes of* — *Maintained an extensive correspondence — His Dictionary commended by Linnæus — Member of the Botanic Academy at Florence — and Fellow of the Royal Society — Catalogue of Hardy Trees and Shrubs — His Gardener's Dictionary — Kalendar — Figures of Plants — Cultivation of Madder — Communications to the Royal Society.*

THE increasing cultivation of exotics in *England*, from the beginning of the present century, and the greater diffusion of taste for the elegancies and luxuries of the Stove and Green-house, naturally tended to raise up a spirit of improvement and real science in the arts of culture. To preserve far-fetched rarities, it became necessary to scrutinize into the true principles of the art, which ultimately must depend on the knowledge

knowledge of the climate of each plant, and the soil in which it flourishes, in that climate.

Under the influence of such men as SLOANE, the SHERARDS, and other opulent encouragers of the science, gardeners acquired botanical knowledge, and were excited to greater exertions in their art. Hence, I believe, the *English* gardeners have shewn themselves equal, if not superior, to most others. My plan does not allow me to deviate so far, as to cite authors on the subject of gardening, unless eminent for their acquaintance with *English* botany. Some have distinguished themselves in this way; and I cannot omit to mention with applause, the names of FAIRCHILD, KNOWLTON, GORDON, and MILLER. The first of these made himself known to the Royal Society, by some “New Experiments relating to the different, and sometimes “contrary Motion of the Sap;” which were printed in the *Philosophical Transactions*, Vol. xxxiii. p. 127. He also assisted in making experiments, by which the sexes of plants were illustrated, and the doctrine

confirmed. Mr. FAIRCHILD died in November 1729.

KNOWLTON.

Thomas KNOWLTON was, in the earlier part of his life, gardener to Consul SHEPARD; but I find him in that station at *Lonsborough*, in *Yorkshire*, in the service of the Earl of BURLINGTON, in the year 1728; in which place, I believe, he spent the greater part, if not the whole, of the remainder of his life. His zeal for *English* botany was uncommonly great, and recommended him successfully to the learned botanists of this country. From Sir *Hans* SLOANE, he received eminent civilities. He merits notice in these memoirs, were it only to record his discovery of that singular production, the Globe *Conserva*, or Moor Balls (*Conserva Ægagropila* Lin.); which he first found in *Wallingfen Mere*. I have read a letter from him to a correspondent, written in the year 1728; and another in 1729: in one of which he relates his having waded near a quarter of a mile into the lake to collect them; which is not done
without

without some difficulty, as they lie at the depth of from two to three feet. At another time he was more successful, and collected near a bushel at once. He describes them to his friend, under the name of *Pill-las*, or globular Balls of Moss, of the size of a tennis ball.

Mr. *Thomas* KNOWLTON was a man of general curiosity and observation; and, amongst other matters, not inattentive to the pursuits of the antiquary.

We find Extracts of Two Letters from him “ to Mr. *Mark* GATESBY, F.R.S. “ concerning the Situation of the ancient “ Town *Delgovicia*, and of two Men of an “ extraordinary Bulk and Weight.” *Phil. Transf.* Vol. xlv. p. 100. This *Roman* station was discovered on the Wolds, within two miles of *Pocklington*. Also,

“ An Account of two extraordinary Deers “ Horns, found under Ground in different “ Parts of *Yorkshire*.” *Phil. Transf.* Vol. xlv. p. 124; with figures. These were of two kinds: one seems to answer to the figure of an horn, as described in *Phil. Transf.* N° 422. p. 257; the other was adjudged

to be the horns of the Moose Deer, so frequently dug up in *Ireland*, and were thought to be the first of the kind discovered in *England*.

Mr. KNOWLTON died in the year 1782, at the advanced age of ninety.

G O R D O N.

James GORDON, of Mile End, eminent for his successful cultivation of exotics, was well acquainted with *English* botany. I know not that he made himself known by any publications. He maintained a correspondence with LINNÆUS; and had the respect paid to him by the late Mr. ELLIS, of having the *Loblolly Bay* of CATESBY called by his name, when separated from the *Hypericum* genus.

M I L L E R.

Philip MILLER was born in the year 1691. His father was gardener to the Company of Apothecaries at *Chelsea*; and his son succeeded him in that office, in the year 1722. He raised himself by his merit, from a state of obscurity, to a degree of

eminence, but rarely if ever before equalled, in the character of a gardener. It is not uncommon to give the term of Botanist, to any man that can recite by memory, the plants of his garden. Mr. MILLER rose much above this attainment. He added to the knowledge of the theory and practice of gardening, that of the structure and characters of plants, and was early and practically versed in the methods of RAY and TOURNEFORT. Habituated to the use of these, from his younger years, it was not without reluctance that he was brought to adopt the system of LINNÆUS; but he was convinced, at length, by the arguments of the late Sir *William* WATSON and Mr. HUDSON, and embraced it. To his superior skill in his art, the curious owe the culture and preservation of a variety of fine plants, which, in less skilful hands, would have failed, at that time, to adorn the conservatories of *England*.

His objects were not confined to exotics: few were better acquainted with the indigenous plants, of which, he successively cultivated most of the rare species.

He maintained a correspondence with many of the most eminent botanists on the continent: among others, with LINNÆUS, who said of his Dictionary, *Non erit Lexicon Hortulanorum, sed Botanicorum*. By foreigners he was emphatically stiled *Hortulanorum Princeps*. He was admitted a member of the Botanical Academy of *Florence*, and of the Royal Society of *London*, in which he was occasionally honoured by being chosen of the council. Mr. MILLER was the only person I ever knew, who remembered to have seen Mr. RAY. I shall not easily forget the pleasure that enlightened his countenance, it so strongly expressed the *Virgilium tantum vidi*, when, in speaking of that revered man, he related to me that incident of his youth.

Mr. MILLER's infirmities induced him to resign his office in the Garden, a little time before his decease, which took place December 18, 1771, in the 80th year of his age. He left a very large *Herbarium* of Exotics, principally the produce of the *Chelsea* Garden.

In the year 1728, Mr. MILLER communicated to the Royal Society, “ A Method of raising some Exotic Seeds, which “ have been judged almost impossible to be “ raised in *England*.” *Phil. Transf.* N° 403. Vol. xxxv. p. 485. This consisted in suffering the Seeds to germinate in a bark bed, and then transplanting them into earth. By this method, he succeeded with all the hard-shelled fruits and seeds. He instances the Cocoa Nut; the Bonduc, or Nickar Tree (*Guilandina Bonduc* Lin.); the *Abrus precatorius*; the Horse Eye Bean (*Dolichos urens*); and several others.

“ An Account of Bulbous Roots flowering in Bottles filled with Water.” N° 418. Vol. xxxvii. p. 81. This method of procuring early Hyacinths, Tulips, and Narcissuses, at that time lately discovered, is now well known, and daily practised.

Although he did not prefix his name to it, he was the author of “ A Catalogue of “ Trees, Shrubs, and Flowers, which are “ hardy enough to bear the cold of our climate, and the open air; and are propagated

“gated in the gardens near *London*.” Fol. 1730. p. 90. tab. 21. The plates are coloured, the arrangement is alphabetical, and the generical characters given. The Catalogue consists chiefly of Trees and Shrubs; among which are several of the *Coniferous* kinds. Some varieties are interspersed.

“CATALOGUS PLANTARUM OFFICINALIUM quæ in Horto Botanico Chelſeiano aluntur.” 1730. 8°. pp. 152.

In 1731, he published his “Gardener’s Dictionary,” in folio, which has passed through many successive editions; in each of which it received such improvements, and augmentations, as have rendered it in the end the most complete body of gardening extant. It has been translated into various languages; and the reception it has every where met with, is a sufficient proof of its superiority. The new edition of it, now under the care of Professor MARTYN, we doubt not, will extend to a late period, the reputation both of the author, and of the editor.

In the same, or the succeeding year, he published “The Gardener’s Kalender,” in 8°;

which has run through numerous editions, and has been a manual, in its way, for the whole kingdom. To an edition of this work, in 1761, the author prefixed “A Short Introduction to the Knowledge
“ of the Science of Botany;” in which he explains the *Linnæan* terms of art, and illustrates the characters of the classes in five copper-plates. This introduction was also sold separately.

Mr. MILLER held an extensive correspondence with persons in distant parts of the globe. From the *Cape of Good Hope*, from *Siberia*, from *North America*, and particularly, by means of Dr. *William Houston*, from the *West Indies*, his garden, for a long series of years, received a plentiful and perpetual supply of rare, and frequently of new species, which his successful culture seldom failed to preserve. It was the remark of foreigners, that *Chelsea* exhibited the treasures of both the *Indies*. These advantages enabled MILLER to execute, what it was in the power of few to attempt — His
“ Figures of Plants, adapted to his Dic-
“ tionary,” which he began to publish in
numbers

numbers in 1755, and which were completed in 300 tables, making two volumes in folio, in 1760, were drawn from plants of his own garden. His original design was very extensive; no less than to give one, or more species, of all the genera: but it was found to be impracticable; and it was therefore confined to such as were the most beautiful, useful, and uncommon. Each number was accompanied with several pages of letter-press, containing the descriptions, and an account of the classes to which they belong, according to the systems of RAY, TOURNEFORT, and LINNÆUS. As this work is well known, I shall only observe, that whether we consider the rarity of the subjects, the speciousness of those he selected for his purpose, or the general execution of the whole, *England* had not before produced any work, except the *Hortus Elthamensis*, and CATESBY'S *Carolina*, so superb and extensive. In one respect, MILLER'S plates had the advantage of the above mentioned, as they exhibited, much more frequently, the separate figures of the parts of fructification.

“ The Method of cultivating Madder, as
 “ it is practised by the *Dutch* in *Zealand*.”
 4°. 1758. Intended to excite the *English*,
 by the cultivation of this important article
 of trade, to supersede the importation of it
 from the *Dutch*; who have “ received from
 “ hence, for many years past, more than
 “ 180,000 pounds a year for this root;” and
 which, if properly carried on, would “ em-
 “ ploy a great number of hands from the
 “ time harvest is over till the spring, which
 “ is generally a dead time of the year.”

“ A Letter to Mr. WATSON, relating to
 “ a Mistake of Professor GMELIN, con-
 “ cerning the *Spondylium vulgare hirsutum*,”
 C.B. *Phil. Transf.* Vol. xlviii. p. 153.

MILLER adduces several reasons to
 prove, that the common *Cow-Parsnep* of
Siberia, which the inhabitants make an ar-
 ticle of food, is not the common *Cow-*
Parsnep (*Heracleum Spondylium*) of Caspar
 BAUHINE; but the *Spondylium maximum*
 of BREYNIUS: and further remarks the
 mistakes that have arisen from considering
 the *common* plants of one country as the
common plants of another. On which oc-
 casion

caſion he obſerves, that the *Parietaria*, ſo frequent in *England*, is not the *Parietaria Officinarum* of *Caspar BAUHINE*, but the *P. Ocymi folio* of that author. In this ſuppoſition, however, we may obſerve, that Mr. MILLER has not been followed by *Engliſh* botaniſts of later date.

“ A Letter to the Rev. *Thomas BIRCH*,
 “ D. D. Secretary to the Royal Society.”
Phil. Tranſ. Vol. xlix. p. 161. And,

“ Remarks upon the Letter of Mr. *John*
 “ *ELLIS*, F. R. S. to *Philip Carteret WEBB*,
 “ Eſq.” in Vol. 1. p. 430.

Theſe letters relate to a diſcovery made by the Abbé MAZEAS, and the Abbé SAUVAGES, on the black ſtaining quality of three ſeveral ſpecies of *American Sumach*. Neither the lixivium of wood aſhes, nor boiling water with ſoap, had any effect in weakening the tinge made by the juices of theſe plants. They were, 1. The Poiſon Aſh, or *Toxicodendrum Carolinianum foliis pinnatis* (*Rhus vernix* Lin.) 2. *Toxicodendron triphyllum folio ſinuato pubeſcente* Tourn. (*Rhus Toxicodendrum*). 3. *Toxicodendrum triphyllum glabrum* (*Rhus radicans*). Mr. MILLER conſiders the
 Abbe's

Abbe's discovery as having been long before anticipated by KÆMPFER; and adduces many reasons to prove, that the *Sitzdsiu*, or *Arbor vernicifera legitima*, p. 791. fig. 792. of that author, or the Varnish Tree of Japan, is no other than the first of these species, of which the staining quality is recorded by KÆMPFER. This position drew Mr. MILLER into a controversy with Mr. ELLIS, who strongly insisted, that the *American* and *Japanese Toxicodendra* were different plants. Mr. MILLER defends his opinion in the "Remarks." It is sufficient at this time to observe, that subsequent botanists of the first note, such as LINÆUS, REICHARD, and THUNBERG, have countenanced MILLER's opinion, by placing them under the same specific distinction with the *Rhus vernix* *.

* The MILLERIA was a new genus, discovered at Panama and Vera Cruz by HOUSTON. It belongs to the *Syngenesious* class, and was dedicated to MILLER by Dr. MARTYN, in his *Decades Plantarum rariorum*.

C H A P. 47.

Mrs. Blackwell, — *Account of, and her unfortunate husband — Encouraged by Sir Hans Sloane, and the College of Physicians, to prosecute her Herbal — Assisted by Mr. Rand and Mr. Miller — Account of that work — and of Trew's improved edition.*

Deering — *native of Saxony — settled at Nottingham — His Catalogus Nottinghamensis — His Hortus Siccus — Nottinghamia Vetus et Nova.*

Wilson — *Singular instance of his ardour to acquire botanical knowledge — His Synopsis of British Plants.*

BLACKWELL.

IT is a singular fact, that physic is indebted for the most complete set of figures of the medicinal plants, to the genius and industry of a lady, exerted on an occasion that redounded highly to her praise.

The name of Mrs. *Elizabeth* BLACKWELL is well known, both from her own merit,

merit, and the fate of her unfortunate husband, who, condemned for crimes of state, suffered death on the scaffold in *Sweden*, in the year 1747.

We are informed, she was the daughter of a merchant in the neighbourhood of *Aberdeen*; of which city Dr. *Alexander BLACKWELL*, her husband, was a native, and where he received an university education, and was early distinguished for his classical knowledge. By some, he is said only to have assumed the title of Doctor, after his successful attendance on the King of *Sweden*; but I believe, the more probable account is, that of his having taken the degree of Doctor of Physic under *BOERHAAVE* at *Leyden*. After having failed in his attempt to introduce himself into practice, first in *Scotland*, and afterwards in *London*, he became corrector to a printing press, and soon after commenced printer himself. But being prosecuted by the trade, and at length involved in debt, was thrown into prison. To relieve these distresses, Mrs. *BLACKWELL*, having a genius for drawing and painting, exerted all her talents; and, understanding

understanding that an Herbal of Medicinal Plants was greatly wanted, she exhibited to Sir *Hans* SLOANE, Dr. MEAD, and other physicians, some specimens of her art in painting plants, who approved so highly of them, as to encourage her to prosecute a work, by the profits of which she is said to have procured her husband's liberty, after a confinement of two years.

Mr. RAND, an eminent apothecary, was at that time Demonstrator to the Company of Apothecaries, in the Garden at *Chelsea*. By his advice she took up her residence opposite the Physic Garden, in order to facilitate her design, by receiving the plants as fresh as possible. He not only promoted her work with the public, but, together with Mr. *Philip* MILLER, afforded her all possible direction and assistance in the execution of it. After she had completed the drawings, she engraved them on copper, and coloured the prints with her own hands.

During her abode at *Chelsea*, she was frequently visited by persons of quality, and many scientific people, who admired her performances,

performances, and patronized her undertaking.

On publishing the first volume, in 1737, she obtained a recommendation from Dr. MEAD, Dr. SHERARD, Mr. RAND, and others, to be prefixed to it. And being allowed to present, in person, a copy to the College of Physicians, that body made her a present, and gave her a public testimonial of their approbation; with leave to prefix it to her book. The second volume was finished in 1739, and the whole published under the following title :

“ A curious Herbal, containing 500 Cuts
“ of the most useful Plants which are now
“ used in the Practice of Physic, engraved
“ on folio copper-plates, after drawings
“ taken from the life. By ELIZABETH
“ BLACKWELL. To which is added, a
“ short Description of the Plants, and their
“ common Uses in Physic. 1739.” 2 vol.
fol.

The drawings are in general faithful; and if there is wanting that accuracy, which modern improvements have rendered necessary, in delineating the more minute parts,
yet,

yet, upon the whole, the figures are sufficiently distinctive of the subject.

Each plate is accompanied with an engraved page, containing the *Latin* and *English* officinal names, followed by a short description of the plant, and a summary of its qualities, and uses. After these occur the name in various other languages. These illustrations were the share her husband took in the work. This ill-fated man, after his failure in physic, and in printing, became an unsuccessful candidate for the place of Secretary to the Society for the Encouragement of Learning. He was made Superintendent of the Works belonging to the *Duke of CHANDOS* at *Cannons*, and experienced those disappointments incident to projectors. He formed schemes in agriculture, and wrote a treatise on the subject, which, we are told, was the cause of his being engaged in *Sweden*. In that kingdom, he drained marshes, practised physic, and was even employed in that capacity for the king. At length he was involved in some state cabals, or, as some accounts have it, in a plot with *Count TESSIN*, for which
he

he lost his life, protesting his innocence to the last.

So respectable a performance as Mrs. BLACKWELL's, attracted the attention of physicians on the continent. TREW, of *Norimberg*, in the year 1750, engaged an artist of that place to copy Mrs. BLACKWELL's plates, and himself supplied several defects in the drawings. He substituted some entirely new figures in the room of the originals, very considerably reformed and amplified the text, translated it into *German* and *Latin*, and planned the addition of a sixth century of plates. He prefixed a most elaborate and learned Catalogue of Botanical Authors, but did not live to finish the work. The Fifth Century was published in 1765; and Dr. TREW dying in 1769, the supplemental volume, exhibiting plants omitted by Mrs. BLACKWELL, articles newly introduced into practice, and figures of the poisonous species, was conducted by LUDWIG, BOSE, and BOEHMER, and printed in 1773. Thus reformed, TREW's edition surpasses any other work of the same design. If there are imperfections in it, they

they were unavoidable, arising from the impracticability of procuring recent specimens in some instances, and from an almost total ignorance of the origin of others, defects still unsupplied in various articles.

D E E R I N G.

Charles DEERING was a native of *Saxony*. He took his degrees in physic at *Leyden*; and, as Mr. MARTYN informs us, came to *England* first, in the train of a foreign ambassador. This happened, I conjecture, before, or about the year 1720. He practised physic and midwifery in *London*; and having a strong bias to the study of botany, became one of the members of the society established by Dr. DILLENIIUS and Mr. MARTYN, which subsisted from the year 1721 to 1726.

In the year 1736, he removed to *Nottingham*, under the recommendation of Sir *Hans SLOANE*. At this time he was married; but his wife did not long survive the removal to that place. He was at first well received; and is said to have been very successful in his treatment of the small-pox,

which disease was highly epidemical at that place, soon after his settling there. But he incurred the censure of the faculty, by his pretensions to a nostrum. He published
 “ An Account of an improved Method of
 “ treating the Small-pox, in a Letter to
 “ Sir *Thomas PARKYNS*, Bart.” 8°. 1737.
 pp. 52. By this tract it appears, that his medicine was of the antiphlogistic kind, and his regimen the cool one, which at that time had been adopted by very few, as general practice.

Dr. DEERING shewed his attachment to his botanical pursuits, by his assiduity in collecting such ample materials for his Catalogue in less than two years after fixing at *Nottingham*. He published it under the following title :

“ A CATALOGUE OF PLANTS naturally
 “ growing and commonly cultivated in divers
 “ Parts of *England*, more especially about
 “ *Nottingham*: containing the most known
 “ *Latin* and *English* Names of the several
 “ Plants; the Tribe they belong to; the
 “ Time of their flowering; and of those
 “ which are either *Officinals* or otherwise,
 “ of

“ of any known Efficacy, such Virtues are
 “ briefly mentioned as may be depended
 “ upon. To which is added, a general
 “ Distribution of Plants according to Mr.
 “ RAY ; with an Explanation of some bo-
 “ tanical and physical Terms ; and an al-
 “ phabetical List of Plants in Flower, for
 “ every Month in the Year. By Charles
 “ DEERING, M.D. Nottingham.” 8°. 1738. pp. 264.

The arrangement is alphabetical, and the number of plants about 850. The author was particularly attached to the subjects of the *Cryptogamia* class, in which his researches had been very successful. Of the number above mentioned, more than 200 belonged to the orders of *Fungi*, *Musci*, and *Algæ* ; among which, we meet with 27 which he considered as *nondescripts*, and 10 others not to be met with in the third edition of RAY's *Synopsis*. He was assisted in this branch by his correspondence with the learned Professor at *Oxford*, who considered some of his discoveries as new, and speaks of his knowledge and assiduity in terms of applause. In page 89 of his posthumous

work, the *Nottinghamia Vetus et Nova*, there occurs a list of some plants, discovered by the author after the publication of this Catalogue. These are principally of the *Cryptogamous* kind. Several of the more rare plants of the environs escaped the observation of this assiduous man; among which may be mentioned particularly, that most virulent of all our *English* productions, the *Cicuta virosa*, or, long-leaved Water Hemlock; which I remember to have seen growing in the *Leen*, near the *Rock-boles*, in *Nottingham* Park. That the *Addenda* to his “Catalogue” were not more copious may be attributed to his subsequent misfortunes, which undoubtedly damped the ardour of his pursuit.

Notwithstanding his early success, that “adverse fatality,” which he himself alludes to in his “Letter on the Small-pox,” still attended him: He was, unhappily, not endowed with that degree of prudence, and equanimity of temper, which are so necessary to the practice of physic; insomuch, that he very early lost the little interest which his character and success had at first gained.

But

But as I would rather dwell on his merits, than on his failings, I shall observe, that besides his acquaintance with the antient languages, he was master of many of the modern tongues. His knowledge of that science which gives him a place in this sketch, was very considerable, and will be perpetuated, so long as DILLENIUS's "History" shall preserve estimation. He had a knowledge of designing, and was an ingenious mechanic. After his failure in Physic, his friends attempted several schemes to alleviate his necessities. They procured him, among others, a commission in the regiment raised at *Nottingham*, on account of the rebellion. But this proved more honourable than profitable to him. He was afterwards employed in a way more agreeable to his genius, and talents; being furnished with materials, and enabled by the assistance of *John PLUMTREE*, Esq; and others, to write the *History of Nottingham*, which he dedicated to the *Duke of NEWCASTLE*. But he did not live to receive the reward of this labour. He had been troubled with the gout at a very early period, having been afflicted

with it in his nineteenth year, and in the latter stage of his life, he suffered long confinements in this disease, and became asthmatical. Being at length reduced to a degree of poverty, and dependance, which his spirit could not sustain, oppressed with calamity, and complicated disease, he died April 12, 1749. Two of his principal creditors administered to his effects, and buried him in *St. Peter's* church-yard, opposite the house in which he resided.

He left an *Hortus Siccus* of the plants of his "Catalogue," consisting of upwards of 600 species, in eight volumes, of the quarto form; besides separate tables of the *Mosses*, and a volume of paintings of the *Fungi*, accurately done by his own hand. Some part, if not the whole, of this collection, was, I believe, purchased by the Honourable *Rothwell* WILLOUGHBY, who had been one of his benefactors, while living, and inherited a portion of that taste, which distinguished his family in the time of Mr. RAY. He left also a manuscript treatise, in *Latin*, *De Re obstetricaria*.

His

His posthumous work was published by his administrators, *George Ayscough*, printer, and *Thomas Willington*, druggist, under the following title:

“NOTTINGHAMIA VETUS *et* NOVA :
 “or, An Historical Account of the ancient
 “and present State of the Town of *Not-*
 “*tingham*, gathered from the Remains of
 “Antiquity, and collected from authentic
 “Manuscripts, and ancient as well as mo-
 “dern Historians; adorned with beautiful
 “copper-plates. By *Charles Deering*,
 M.D. *Nottingham*. 1751.” 4°. pp. 370.

It is embellished with 24 copper-plates; among which are a plan, and two views of the town; a ground plan of the old castle; two views of the present castle; the three churches; and many other buildings. A view of the “Rock-holes” in the park; supposed by Dr. *Stukeley* to have been the work of the *Britons*, enlarged and altered by the *Saxons*. But one of the most remarkable articles in this volume is, a complete description of that curious machine the stocking-frame, invented two centuries ago by *William Lee*, M. A. of *St. John’s College*,

lege, *Cambridge*, a native of *Woodborough*, near *Nottingham*. I know not that so full an account of this complicated machine is elsewhere to be seen. All the parts are separately, and minutely described, in the technical terms; and illustrated by two views of the whole, and by a large table, delineating with great accuracy, every constituent part of the machine.

WILSON.

The subject of this article, like *Thomas WILLISEL*, and *Samuel BREWER*, is another instance of that unconquerable attachment to a favourite branch of knowledge, which sometimes engrosses the minds of those, who, by their lot, have not been exempted from labouring in the lower, and mechanical offices of life.

From information which I received, more than twenty years ago, concerning *John WILSON*, I learned that he was originally an inhabitant of *Kendal*, in *Westmoreland*; and was employed in the manufacture of knit stockings, for which that town was so famous. That, at one time, he gave weekly
lessons

lessons on botany, alternately, at that place, and at *Newcastle*. That many pupils resorted to him from the neighbouring parts of *Scotland*; infomuch, that in some seasons, he received sixty pounds a year, as the premium of his labours.

I must not, however, omit to observe, that this account does not coincide with another, which I have since met with in the “*British Topography*,” the respectable author of which informs us, “That WILSON was a shoemaker, and by his intense application to his favourite study, lived most of his life in a state of indigence. A cow, of which his wife had the care, was the sole support of his family: and such was his infatuation, that he was once tempted to part with that most useful animal, to purchase MORISON’s voluminous work, had not a neighbouring lady presented him with the book, and rescued the poor man and his family from beggary and ruin.”

In this representation of WILSON’s conduct, while men of sympathizing minds,
and

and similar taste, must deplore that hard fate which reduced him to such necessity, they must yet more strongly censure a rashness, which could tempt him to risk, in so essential a manner, the welfare of his family.

As WILSON exhibited to the public, a singular proof of his knowledge in this his principal object, I am inclined to believe, that he must, originally, either have had some grammar education, or, impelled by his genius, must afterwards have acquired a knowledge of the *Latin* language. How else (except on the supposition of extraordinary assistance, of which I have no information) could he have made use of MORISON'S "History," or have translated RAY'S *Synopsis*! In 1744, he published "A SYNOPSIS OF BRITISH PLANTS in Mr. RAY'S METHOD; with their Characters, Descriptions, Places of Growth, Time of Flowering, and physical Virtues, according to the most accurate Observations, and the best modern Authors; together with a Botanical Dictionary, illustrated
" with

“ with several Figures, By John WILSON.
“ *Newcastle upon Tyne.*” 8°. 1744. pp.
272,

Throughout this work, the author has prefixed copious characters to each genus, taken, as it appears, from RAY and TOURNEFORT; into many of which, in conformity to RAY's method, he introduces the form of the leaves, and the habit of the plant. By this means, having added, in most instances, short descriptions of the species, his book was an useful pocket manual, as far as it extended; for he begins with the Capillary plants, and ends with the Bulbous rooted. He subjoins the particular places of the rare plants in the northern parts of *England*, from his own observations, and, partly from a manuscript of Mr. LAWSON's. His remarks on the properties and virtues, additional to those from RAY, he has principally extracted from MILLER's “*Botanicum Officinale.*”

WILSON has made some transpositions in the distribution of his subjects in this volume, which prove that he had attentively examined plants, and was well acquainted
with

with the system of RAY. Some of his alterations will stand the test of modern accuracy, though others may be less happy.

He has placed all the species of the *Fumaria* genus together, in the *Papilionaceous* class; and, agreeably to the hint which DILLENIIUS gives in the *Synopsis*, p. 316, has referred the *Plantains*, and *Sponges*, to the *Monopetalous* flowers succeeded by dry seed vessels. The removal of the *Lyfimachia filiquosa*, the two *Papavera corniculata*, the *Chelidonium*, and the *Balsamine*, to the *Siliquose* or *Tetradynamous* class of LINNÆUS, is less to be approved. By these changes, he has nearly annihilated RAY's twenty-second class of *British* herbs. In transposing of species, he has made more numerous alterations; some of which are sufficiently justified by modern improvements. Thus he has brought under one genus the *Scordium* and *Scorodonia*. He has referred the *Raphanus rusticanus* to the *Cochlearia* genus, as TOURNEFORT had done. The *Chelidonium* genus is separated from the *Papaver*, and a new characteristic note framed, but the name *Papaver corniculatum* preserved.

preserved. The only two plants met with in this book, which do not occur in the *Synopsis* of RAY, are such as have a doubtful title to the appellation of indigenous: they are the *Valeriana rubra*, and *Allium Schœnoprasum*.

I believe he died about the year 1750, or soon after. He left the remaining part of his work, on the *Graminaceous* and *Cryptogamous* tribes, compleat in manuscript. In the year 1762, a person of *Newcastle*, into whose hands the manuscript had passed, meditated the publication of it, with a new edition of the work now spoken of, which was out of print, and much called for; but the design never took effect.

C H A P. 48.

Blackstone — *His Fasciculus Plantarum circa Harefield — Specimen Botanicum — Contributors to that Catalogue.*

Collinson — *a great promoter of Botany and Gardening — introduces many new productions from America.*

American Botanists — Logan — Mitchell.

Warner — *His Plantæ Woodfordienses — Glossary to the plays of Shakespeare — Legacy and Exhibition to Wadham College.*

BLACKSTONE.

IN 1737, John BLACKSTONE, an apothecary, in Fleet Street, London, published “FASCICULUS PLANTARUM CIRCA HAREFIELD SPONTE NASCENTIUM:” with an Appendix, containing some short notes relating to *Harefield*. 12°. pp. 118. The order observed in this small local catalogue is alphabetical, and the synonyms taken from Caspar BAUHINE’s *Pinax*, from GERARD, PARKINSON, and others in common use. These are followed by the
x general

general place of growth, the particular spot in the instances of rare plants, and the time of flowering. As scarcely any of the *Mosses*, or *Fungi*, are introduced, the number is small; only 527 species. The account of *Harefield* is very brief.

The same author published also, “SPECIMEN BOTANICUM quo Plantarum plurimum rariorum Angliæ indigenarum Loci natales illustrantur. Authore J. BLACKSTONE.” 8°. 1746. pp. 106. This small volume exhibits the particular places of growth of 366 species of the more rare *English* plants, and was so far a valuable addition to RAY’s *Synopsis*. The arrangement is the same as in the *Harefield* Catalogue, and the synonyms drawn from the same authors; with the addition of a few from the works of LINNÆUS. It is embellished with two elegant engravings: one representing that singular variety of the *Clavaria Hypoxylon*, first figured in the *Philosophical Transactions*, N° 475. and described as a *Boletus*: the other the *Lycoperdon fornicatum*, *Fl. Ang.* ed. 2. p. 644; but first described and figured in N° 474. by the late Sir William WATSON.

The

The *Loci natales*, or, as some modern botanists quaintly speak, the *Habitats*, of a great number of the subjects in this little work, were communicated by the friends and correspondents of the author; of whom, as they hereby contributed to enlarge the bounds of *English* botany, it is but just to record their names.

From *Yorkshire*, the author was supplied with a great number by Mr. THORNBECK, a surgeon and expert botanist, at *Ingleton*, a spot rich in the choicest objects of a curious observer. Mr. DAWSON, a surgeon of *Leeds*, communicated also many rare species: as did Mr. VERNON, of *Whitchurch*, in *Cheshire*.

The observations of the late Sir *William* WATSON, Sir *John* HILL, Dr. WILMER, and Mr. HURLOCK, contributed to enrich this little *Flora*. I find also a manuscript Catalogue of Plants growing about *Feversham* frequently referred to, written by *John* BATEMAN, A.M. This manuscript has since been the basis of a little work, published by the late *Edward* JACOB, F.S.A. under the title of "*Plantæ Faverhamienses.*"
Lond.

Lond. 8°. 1777. pp. 127. To which is annexed, a view of the Fossil Bodies of the island of *Shepey*. The plan of this catalogue is exactly that of Mr. WARNER's, in the "*Plantæ Woodfordienses*."

In this volume, Mr. BLACKSTONE has introduced a few plants, not before recorded as natives of this island: such are, the *Epimedium alpinum*; *Aristolochia Clematitis*; *Limonium reticulatum*; *Fritillaria Meleagris*; and *Dentaria bulbifera*. Subsequent authors have not allowed complete naturalization to the *Epimedium*, and probably that of some of the others is but of modern date. The two last were observed by Mr. BLACKSTONE in the environs of *Harefield*.

The author intended another volume of the *Specimen*, for which he had collected materials. He had also a taste for Topographical Antiquities, and had made collections in that way, but did not live to publish them. He died in 1753*.

The

* Mr. HUDSON, when he separated the *yellow Centory* from the *Gentians*, gave it the name of BLACKSTONIA; which distinction LINNÆUS confirmed in the *Systema*

The “*Specimen Botanicum*” of Mr. BLACKSTONE, I consider as the last book published in *England*, on the indigenous botany, before the system of LINNÆUS had gained the ascendancy over that of RAY: nor, unless it were within my plan to recount single papers, occasionally printed in the *Philosophical Transactions*, or in other collections, am I able to mention any work of importance on exotic botany, before this revolution took place, which was not built upon, or at least did not exhibit some principles of, the new system. Whilst this event was taking place, which cannot be computed at fewer than twenty years, commencing from 1740, there were, however, several eminent and learned men, who, although they did not distinguish themselves by publishing separate tracts on the science, were occasionally improving it, by their

of 1767, but changed the name to *Chlora*, an appellation it had received from RENEAULME, in his *Specimen Historiæ Plantarum*, published in 1611. It should seem, that the discovery of the true place of this plant in the system, entitled Mr. HUDSON to the dispensation of the name, or at least that BLACKSTONE should have been perpetuated in the trivial epithet.

various

various discoveries and communications, and, ever awake to its welfare, by the patronage they extended towards it. I cannot omit to mention some of these, though it be out of my power either to do sufficient justice to their services myself, or to point out, in some instances, such memorials relating to their lives, as might properly gratify that curiosity, which esteem for their characters naturally excites.

COLLINSON.

As prior in point of time, I mention Mr. *Peter* COLLINSON, to whose name is attached all that respect which is due to benevolence and virtue. I have the satisfaction of referring the reader to some account of Mr. COLLINSON, printed in 1770: and to further anecdotes, by Dr. LETTSOM, at the end of his “Memoirs of Dr. FOTHERGILL;” to which is annexed, a list of Mr. COLLINSON’s papers, printed in the *Philosophical Transactions*, and in the *Gentleman’s Magazine**. In Mr. COLLINSON’s time, *England* received large accessions to exotic botany

* See also a further account of Mr. COLLINSON in the *Biographia Britannica*. Vol. iv. 2d edit. p. 34.

from all parts of the globe; to which no one contributed more than himself, through his various correspondence, especially in *America*. He was indefatigable in his exertions to procure the seeds of curious and useful vegetables, and equally free in distributing them. Natural History in all its parts, Planting, and Horticulture, were his delight. He cultivated the choicest exotics, and the rarest *English* plants. His garden contained, at one time, a more complete assortment of the *Orchis* genus, than, perhaps, had ever been seen in one collection before. He died August 11, 1768, in the 75th year of his age *.

Numerous were the channels by which *England* was enriched with the seeds and specimens of *American* productions. BARTRAM was constantly employed in collecting. Governor COLDEN, of *New York*, and Dr. MICHELL, in *Virginia*, were frequent in their communications to MILLER, to CATESBY, to COLLINSON, and others. For

* The name of Mr. COLLINSON is perpetuated in a beautiful *American* plant of the *Diandrous* class, well known in the *English* gardens.

Dr. FOTHERGILL's incessant exertions in the same designs, being at a later period, are too well known to be repeated here. Governor COLDEN sent to LINNÆUS upwards of 200 species, the account of which was printed in the *Upsal Acts* for 1743 and 1744; and LINNÆUS, in his *Flora Zeylanica*, gave to a plant of the *Tetrandrous* class, the name of his correspondent.

LOGAN.

Several ingenious gentlemen in *America* pursued botanical investigations with great success about this period. James LOGAN, Esq; afterwards President of the Council, and Chief Justice of *Pensylvania*, instituted a set of Experiments on the Maiz, relating to the sexes of plants. They were first communicated in a letter to Peter COLLINSON, F.R.S. in 1735; and were printed in the *Philosophical Transactions*, Vol. xxxvi. p. 192. They were afterwards enlarged, and published in *Latin*, at *Leyden*, in 1739, under the title of “*Experimenta et Meletemata de Plantarum Generatione*,” and republished with an *English* translation, if I mis-

take not, by Dr. FOTHERGILL, in 8°. 1747. pp. 39. They have been considered, and appealed to, as among the most decisive in establishing the doctrine they were intended to illustrate and confirm.

MITCHELL.

Dr. *John* MITCHELL, then resident at *Urbana*, in *Virginia*, sent over, in 1741, the descriptions of thirty genera of plants, of which six were entirely new; others were corrected and amended. Among the most remarkable are, the *Ginseng* of *America*, *Panax quinquefolium*: the *Liquid Ambar* *Styraciflua*: the *Malacodendron*, afterwards called by CATESBY, STEWARTIA, in honour of the *Earl of Bute*: the *Zizania aquatica*. In the introduction, Dr. MITCHELL discourses on the principles of botany, and appears to have paid attention to the *Hybrid* productions. This paper was separately published, in 4°. at *Nurenburgh*, in 1769.

In 1743, he sent over to Mr. COLLINSON, an ingenious “ *Essay on the Causes of*
“ the different Colours of People in diffe-
“ rent

“rent Climates.” It was designed as a solution of the prize problem from the Academy of *Bourdeaux*; but was published in the *Philosophical Transactions*, Vol. xliii. pp. 102—150.

The question concerning the cause of the black colour of the skin in Negroes, has exercised the pens of many philosophers and anatomists. What has perplexed the question the more is, that these ingenious writers (among whom are principally *Malpighi*, *Boyle*, *Winslow*, *Meckel*, and *Barrere*) have differed about matters of fact that should seem to be cognizable by the senses.

It would be improper in this work to pursue the learned author through all his ingenious details and curious *scholia* on this subject; it must be sufficient to observe, that, on the *Newtonian* doctrine of the causes of colours, he deduces the colour of the skin of Negroes from the structure, after establishing certain propositions: 1. That the colour of White People proceeds from the colour which the *epidermis* transmits. 2. That the density of the skins of Negroes allows of no transmission of colour. 3. The

part of the skin which appears black in Negroes, is the *corpus reticulare cutis*, and external *lamella* of the *epidermis*. 4. That the colour does not proceed from any black humour or fluid parts contained in their skins. 5. That the *epidermis*, especially its external *lamella*, is divided into two parts, by its pores and scales, 200 times less than the particles of bodies, on which their colours depend. Hence Dr. MITCHELL concludes, “ that the proximate cause of the colour of Negroes is threefold; *viz.* the opacity of their skins, proceeding from the thickness and density of the texture, which obstructs the transmission of the rays of light from the white and red parts below them; together with their greater refractive power, which absorbs those rays; and the smallness of the particles of their skins, which hinder them to reflect any light.” After which, he discourses on the influence of the sun, and the modes of life among the inhabitants of hot countries, as the remote causes of the colour of Negroes and Indians.

Dr. MITCHELL returned to *England*, I
believe,

believe, about the year 1747 or 1748; became a Fellow of the Royal Society; and was the writer of an instructive memoir “On
 “ the Preparation and Uses of the various
 “ Kinds of Pot-Ash.” *Phil. Transf.* Vol.
 xlv. p. 541—563. And of “ A Letter
 “ concerning the Force of Electrical Co-
 “ hesion.” Vol. li. p. 390.

W A R N E R.

Richard WARNER, Esq; of *Woodford-Row*, in *Essex*, merits a particular remembrance at this period, for his regard to the science of botany, and the respect and honour he ever shewed to the lovers of it. “ He was bred to the law,” as we are informed in the ‘ *Anecdotes of Mr. William Bowyer*,’ “ and had chambers in *Lincoln’s Inn*; but, being possessed of a genteel fortune, resided at a good old house on “ *Woodford Green*.” Here he maintained a botanical garden, and was very successful in the cultivation of rare exotics. He was not unacquainted with indigenous plants. The herborizations of the Company of Apothecaries were, once in the season,
 usually

usually directed to the environs of *Woodford*, where, after the researches of the day, at the table of Mr. WARNER, the products of *Flora* were displayed. The result of the investigations made in that neighbourhood, was published by Mr. WARNER, under the title of “*Plantæ Woodfordienses*; or, a Catalogue of the more perfect Plants growing spontaneously about *Woodford*, in *Essex*.” Lond. 1771. 8°. pp. 238. As none of the *Graminaceous*, or *Cryptogamous* tribes, are introduced, the list does not exceed 518 species. The order is alphabetical, by the names from RAY’s *Synopsis*; after which follow the specific character at length, from HUDSON’s “*Flora Anglica*,” the *Linnæan* class and order, the *English* name, place, and time of flowering. In the Preface, the author enumerates the names of more than twenty of his friends, among whom are many of those alluded to above, by whose joint assistance he was enabled to enlarge his work beyond what his own observations might otherwise have allowed. Mr. WARNER was also distinguished for his polite learning;

learning ; and eminently so, for his critical knowledge in the writings of *Shakespeare*, of whose plays he had long meditated to give a new edition ; but desisted, on the appearance of Mr. *Steevens's* proposals. In 1768, he published “ A Letter to *David Garrick, Esq;* concerning a Glossary to the “ Plays of *Shakespeare.*” 8°. This Glossary he continued to augment, to the last days of his life. He translated the Comedies of *Plautus*, left undone by *Thornton*, which were published in 1772 and 1774.

Mr. WARNER, in his youth, as is related of the great LINNÆUS, had been remarkably fond of dancing ; nor, till his passion “ for that diversion subsided, did he “ convert the largest room in his house “ into a library.” He died April 11, 1775 ; and bequeathed his valuable books to *Wadham College, Oxford*, where he received his education ; and left to the same Society an exhibition for a botanical lecture.

C H A P. 49.

Ehret—*a German of the marquisate of Baden Durlach —first patronized by Trew — Paints plants in the Royal Garden of Paris — and in Clifford's garden under Linnæus — Settles in England—Patronized by the Literati—Plantæ Selectæ of Trew painted by him—Ehret's publications — His papers in the Philosophical Transactions.*

Hill—*his writings.*

E H R E T.

AMONG the various contingencies which favoured the introduction of the *Linnæan* system into *England*, it is not unimportant to mention the effect of the admirable pencil of the late Mr. EHRET. This ingenious artist brought with him, not only a general taste for botany, but a particular knowledge of the principles, on which the system of LINNÆUS was founded; and was among the first who displayed it, in the specimens of his art.

The father of *George Dyonisius EHRET* was gardener to the Prince of *Baden Durlach*.

*lach**. Young EHRET very early shewed a taste for drawing, and painting the flowers of the garden. And although he received no instructions, yet such was his proficiency, that, whilst a very young man, he had painted 500 plants with a skill and accuracy that was almost unexampled, under the disadvantages of so total a want of instruction as our young artist had experienced. His merit, however, remained long unknown, or at least ineffectually noticed, until it was discovered by a gentleman of curiosity and judgment, who visited the garden, of which his father was the superintendant. Fortunately for young EHRET, this stranger was a physician and a friend of the celebrated Dr. TREW, of *Norimberg*, to whom he justly supposed these paintings would be acceptable. EHRET by this means was introduced to TREW, who immediately purchased the whole 500 paintings, and generously gave him double the price at which the young artist had modestly valued them.

* *Charles*, Prince of *Baden Durlach*, was a patron of botany, and his garden was famous at that time. He sent his principal superintendant of the garden, on the unfortunate expedition with HEZENSTREIT, into *Africa*.

The

The liberality of TREW, by which EHRET put 4000 florins into his pocket, inspired him with confidence in his own abilities, and such a share of ambition as inclined him to quit his home, and seek at once to raise his fortune, and to gratify the desire he had to see the world. It appears that he was too much elated with his success; and, as the effect of some share of vanity, and a want of æconomy not unusual in young men, he soon dissipated this sum, and, in quest of adventures, went to *Basil*, with the last, and those only a few, of his florins in his pocket. Here, shutting himself up, he, with great diligence, and singular exertion, stimulated now by pressing necessity, soon exhibited numerous specimens of his art; and, though he had learned to set a higher value upon them, found a demand beyond his industry to supply. Having thus recruited his finances, he journeyed into *France*, and resided some time at *Montpelier*, where he taught his art to a lady of fortune, who rewarded him generously, and, on his wish to remove, paid his expences to *Lyons* and *Paris*. At the latter city he became known to JUSSIEU, and was for some time employed

to paint the plants of the Royal Garden, under that eminent Professor's inspection. After a certain time, he exchanged his situation at *Paris*, for that of *London*; but not succeeding to his mind, he soon returned to the continent. The precise time of his being first in *England*, I cannot ascertain; but it was, I conjecture, before his employment in the garden of Mr. CLIFFORD, where LINNÆUS found him in the year 1736. From LINNÆUS himself he was taught attention to the parts of the flower, and hence became early instructed in the principles of the sexual system. His fine taste, and botanical accuracy, were, I apprehend, first publicly manifested in the figures of the *Hortus Cliffortianus*, published in 1737; and, from that time, EHRET became strongly attached to the principles of the *Swede*.

He returned to *England* about the year 1740, or soon after that period: and here he spent the remainder of his days. His first patron in this country was *Taylor WHITE*, Esq; for whom he finished 300 paintings of plants. He soon after procured the patronage of Dr. MEAD, for whom he painted

200, and who generously advanced his price. In consequence of this countenance and protection, he obtained encouragement from Sir *Hans* SLOANE, and many other opulent lovers of his art. Dr. FOTHERGILL procured large collections from him; and the late eminent patroness of natural history, the *Duchess of* PORTLAND, possessed, besides near 300 paintings of exotics, upwards of 500 of *English* plants, done on vellum, and highly finished, by this admirable artist.

Another of his patrons, and to whose obliging information I owe great part of the foregoing anecdotes relating to him, was *Ralph* WILLETT, Esq; of *Merly*, in *Dorsetshire*; at whose seat Mr. EHRET was accustomed, for many years, to spend several weeks in the summer season, and in whose friendship Mr. EHRET reposed, as executor in the last arrangement of his affairs. The library at *Merly* exhibits a copious collection of exotics, done by EHRET: not fewer than 230 finished specimens on vellum; besides seventy on paper; and more than 500 in an unfinished state.

The first published specimens of his pencil, after his settlement in *England*, that I
am

am acquainted with, were exhibited in the 44th volume of the *Philosophical Transactions*, N° 478. for January and February 1746; by the figure of the *Keratophyton flabelliforme* of RAY (*Gorgonia verrucosa* Lin.) for a paper written by Sir Hans SLOANE: and by two excellent figures of the *Oenanthe crocata*, and *Cicuta virosa*, in the same volume, intended to illustrate Mr. WATSON's observations on the fatal Qualities of those Plants.

Very early after his arrival in this kingdom, he began to paint figures of the rarest products of the *English* gardens, for his friend and first patron Dr. TREW; for whom, in the end, he finished 300. Of these, at different periods, 100 were engraved, and published in *Decads*, under the following title:

“ PLANTÆ SELECTÆ, quarum Imagines ad exemplaria naturalia Londini in hortis curiosorum nutrita, manu artificiosa pinxit Georgius Dionysius EHRET, Germanus, collegit nominibus notisque illustravit Chr. Jacob. TREW, M.D. Norib. in Æs incidit et vivis coloribus representavit Jo. Jac.

Haid. Augustanus." Decuria I. 1750. fol. reg.—Decur. X. 1773.

Seven *Decads* of this work were published at Dr. TREW's expence, during his lifetime; and the remaining three by Dr. VOGEL, after his decease. The whole is executed in so splendid a manner, as to constitute, at this day, one of the finest ornaments of the botanical library.

The only publication of any importance in *England*, in which Mr. EHRET was engaged throughout, as far as I can find, was BROWN's "*Natural History of Jamaica*," printed in 1756, for which he drew all the figures, amounting to 40 tables. As they were principally taken from prepared and dried specimens, they cannot be numbered among his capital performances.

Mr. EHRET drew, and himself engraved, a set of tables of Exotics, two or three on each plate, to the number of fifteen; each table containing also a Butterfly of exotic origin. These were published at *London*, in 1748—1759. The last of these exhibits the Cape Jasmine, *Gardenia florida*, which had flowered for the first time in
England,

England, in the garden of Mr. WARNER, at *Woodford*, in the year 1758. A description of this elegant plant; the generical character of the *Laurus Sassafras*; and the description of a new *Lithospermum*, all written by Mr. EHRET, were printed in the "*Nova Acta Academiae Curiosorum.*" Tom. II. *Norimb.* 1761.

An Account of the *Ophrys scapo nudo foliis radicalibus ovato-oblongis, dimidii scapi longitudine*, described by GRONOVIVS in his "*Flora Virginica*;" with a figure. Vol. liii. p. 81. The *Ophrys lilifolia* of LINNÆUS: it was sent from *Philadelphia* by Mr. BARTRAM, and flowered in *England*, for the first time, in the garden of Mr. COLLINSON, in the year 1758.

An Account of a new *Peruvian* plant lately introduced into the *English* gardens; with a figure. Vol. liii. p. 131. This is the *Nolana prostrata* Lin. which flowered in the garden at *Chelsea*, for the first time in *England*, in 1761, now very common.

A Description of the *Andrachne*, with its botanical character, and a figure. Vol.

lvii. p. 114. The *Arbutus Andrachne*, which first flowered in *England*, in 1766, in the garden of Dr. FOTHERGILL.

His ingenuity and knowledge of nature raised him to a degree of reputation among the literati, and obtained him the distinction of being chosen a Fellow of the Royal Society. Besides the profit accruing from those numerous exhibitions of his pencil, he applied for many years, with great assiduity, to the business of teaching his art; and if his ingenuity did not meet with a reward equal to his merit, yet his labours, in the end, proved sufficiently lucrative, to afford him a moderate independence; though, to the last, he ceased not to employ his pencil.

He died in September 1770, in the 60th year of his age *.

Mr. EHRET married the sister of *Philip Miller*, of *Chelsea*, by whom he left one son.

* Mr. EHRET was complimented by Dr. TREW, in the Third Decad of the *Plantæ Selectæ*, with a new genus, which he called by his name. The EHRETIAE are trees of the *Pentandrous* class, first described and figured by SLOANE; to which, new species have been added by JACQUIN.

He

He was well versed in the botany of this country, and delighted in painting the indigenous plants. He was ever best pleased when employed by scientific people ; since his wish was always to follow nature, and to exhibit on his piece the true characters, without the smallest deviation for the sake of embellishment. Having early imbibed the principles of *Linnæus's* system, he attended to the discrimination of the parts on which it was founded, with an accuracy that commanded observance ; and while his excellence in delineating and painting drew admiration, and diffused a taste for the study of plants, the truth of his pencil instructed those who beheld it in the principles of the science.

H I L L.

About the year 1751, Dr. HILL began to publish on the subject of botany. His "History of Plants," printed in that year, although compiled and translated principally from LINNÆUS, was not adapted to indigenous botany, nor sufficiently calculated to instruct the student in the ultimate

part of any system, the specific distinctions; since LINNÆUS had not as yet completed the exemplification by modelling the character throughout the whole; the *Species Plantarum* not being published till the year 1753.

I mean not to enter on any detail of his numerous writings, since they are well known, and most of them posterior to the limits of my plan. Although it may be difficult to reconcile the praises this author bestows on LINNÆUS, in many of his writings, with the censures contained in his “British Herbal,” yet his works had a favourable influence in promoting the science in general, though not the *Linnæan* modification of it in particular*.

* For an account of Sir John HILL, I refer the reader to the *Biographica Dramatica*. Edit. the 2d, 1782.

C H A P. 50.

Sir William Watson — Anecdotes of — His early bias to Natural History — Admitted into the Royal Society — Distinguishes himself as a Botanist — His papers on that subject in the Philosophical Transactions — Publishes Peyssonnel's Discoveries on Zoophytes — Appointed one of the Trustees to the British Museum by Sloane himself — One of the Revivers of Electricity — Makes several eminent discoveries in that branch of philosophy — His papers on that subject printed in the Philosophical Transactions.

W A T S O N.

AMONG those learned botanists of England, who early recognized the prevailing excellencies of the *Linnaean* system, must be ranked the late Sir *William Watson*. At a period when Botany was feebly supported in these kingdoms, after the decease of the *Sherards*, and the retirement of *Sloane*, his talents and his zeal enabled him, as far as the influence of

an individual could extend, to sustain and promote this science, not only with his own countrymen, but with those learned foreigners who visited this kingdom. Whilst, therefore, justice to his character and attainments, in the subject of this work, demand consideration, I feel an additional motive to pay a tribute to his memory, arising from a grateful remembrance of the friendship and correspondence with which he honoured me.

Sir *William* WATSON was born in 1715, in *St. John's Street*, near *Smithfield*. His father was a reputable tradesman in that street, and died, leaving him very young. When he had attained to a proper age, he was sent to Merchant Taylor's School; and from thence was apprenticed to Mr. *Richardson*, apothecary, in 1730.

In his youth he had a strong propensity to the study of natural history, and particularly to that of plants. This led him to make frequent excursions in a morning, several miles from *London*; so that he became early well acquainted with the *Loci natales* of the indigenous plants of the environs of
London;

London; and, during his apprenticeship, he gained the honorary premium given annually by the Apothecaries Company, to such young men as exhibit a superiority in the knowledge of plants, in those excursions made by the Demonstrator of *Chelsea* Garden; and instituted for the purpose of initiating the apprentices of the Company in a science so necessary to the profession. This premium, as hath been observed in the course of the preceding pages, consisted of a handsomely bound copy of RAY's *Synopsis*. He continued, at times, throughout his life, to attend on these occasions, and meet his former associates with great pleasure and delight.

In 1738, Mr. WATSON married, and set up in business for himself. His skill, his activity, and diligence in his profession, soon distinguished him among his acquaintance; as did his taste for natural history, and his general knowledge of philosophical subjects among the members of the Royal Society, of which honourable body he was elected a member early in the year 1741; his two first communications being printed in the

41st volume of the *Philosophical Transactions*.

Soon after his admission into the Royal Society, Mr. WATSON distinguished himself as a botanist. His earliest paper on this subject was, "An Account of the celebrated HALLER's *Enumeratio Stirpium Helvetiæ*, extracted from the *Latin*, and illustrated with a *Conspectus* of the author's method, and with various observations." This was printed in the *Philosophical Transactions* (a).

In the same volume (b), and in the succeeding (c), he excited the attention of the curious in this way, by some "Critical Remarks on the Rev. Mr. PICKERING's Paper concerning the Seeds of Mushrooms," which, that gentleman having seen a short time before, considered as a new discovery; whereas Mr. WATSON shewed, that they had been demonstrated several years prior to that period, by M. MICHELI, in his "*Nova Plantarum Genera*," printed at Florence in 1729.

(a) Vol. xlii. p. 369—80. (b) p. 599.

(c) Vol. xliii. N° 473. p. 51.

But

But that which attracted the attention of foreign botanists particularly, was his description of a rare and elegant species of *Fungus*, called from its form *Geaster* (d). This was written in *Latin*, and accompanied with an engraving. It has since been called *Lycoperdon fornicatum*.

In the same volume are inserted some very instructive observations on the *Cicuta*, or Common Hemlock; occasioned by the death of two of the *Dutch* soldiers, quartered at *Waltham Abbey*, in *Essex*; which happened in consequence of their having eaten this herb instead of Greens (e).

The death of two of the *French* prisoners in 1746, occasioned by their eating the roots of the *Hemlock Dropwort*, produced from Mr. WATSON a paper, which in an eminent manner exemplified his skill in the knowledge of plants. It abounds with curious and critical observations on that plant, and on the *Sium Erucæ folio* of *Caspar* BAUHINE (*Cicuta virosa* Lin.) with which it had been frequently confounded;

(d) *Phil. Transf.* Vol. xliii. p. 234. t. 2. f. 11.

(e) *Ibid.* N° 473. p. 18.

as both had also been commonly mistaken for *Water Parsnep*. It is accompanied with engravings of the plants, from the excellent drawings of Mr. EHRET (f).

In the 45th volume of the *Philosophical Transactions*, is printed a Translation, by Mr. WATSON, of a Letter to Sir HANS SLOANE, from Dr. GARCIN, of *Neuchatel*, containing a complete history of the *Cypress* of the antients; the *Henna*, or *Alcanna* of the *Arabians*, called by LINNÆUS *Lawsonia inermis*; a Shrub, famous for its use, both in medicine, and as a dye, all over the East, inso-much that, at *Constantinople*, the duty on this drug amounts to 18,000 ducats annually (g).

In 1748, Mr. WATSON had an opportunity of shewing attention to M. KALM, during his abode in *England*, which was from February till August, when he embarked for *America*. He introduced him to the curious gardens, and accompanied him in several botanical excursions in the environs of *London*. This eminent pupil of LINNÆUS,

(f) *Phil. Transf.* Vol. xlv. p. 227—245.

(g) *Ib.* Vol. xlv. p. 564—578.

who was a *Swedish* divine, on his return home, became Professor of Oeconomy at *Abo*, where he died Nov. 16, 1779, aged 63.

The same civilities were manifested by Dr. WATSON to the present eminent Dr. PALLAS, of *Petersburgh*, during his abode in *England*, which was from July 1761, to April 1762.

In 1749, in company with Dr. MITCHELL, Mr. WATSON examined the remains of the garden, formerly belonging to the TRADESCANTS; of whom, see chap. 14. of this work. They found the *Arbutus*, and the *Cupressus Americana*, with other exotics, in a vigorous state, after having sustained the winters of this climate for 120 years. This situation had also afforded a proof, not often exemplified, of the large size to which the *Common Buck-Thorn* will grow. They found one about 20 feet high, and near a foot in diameter (*b*).

In 1751, were laid before the public, some very curious and interesting particulars, relating to the sexes of plants, which

(*b*) *Phil. Transf.* Vol. xlv. p. 162.

tended to confirm the truth of that doctrine in a remarkable manner. These were occasioned by a letter from Mr. MYLINS, of *Berlin*, informing Mr. WATSON, that a tree of the *Palma major foliis flabelliformibus*, which, although it had borne fruit for 30 years past, had never brought any to perfection, until the flowers of a male-tree, brought from *Leipfic*, 20 *German* miles distant, had been suspended over its branches. After this operation, the tree yielded, the first year, above 100, and the second, upon repeating the experiment, above 2000 ripe fruit; from which 11 young Palm-trees had been propagated (i).

In the same volume are some remarks on the case of two women in *Brabant*, who had been nearly poisoned by eating the leaves of what had been called *White Henbane*; but Mr. WATSON proved, that it must have been the *Hyoscyamas niger*, since the *white* does not grow spontaneously in that country. The same letter confirms the poisonous effect of the *Yew-tree* upon horses (k).

(i) *Phil. Transf.* Vol. xlvii. p. 169.

(k) *Ib.* Vol. xlvii. p. 199.

Mr. WATSON paid the same tribute, in 1751, to the memory of Dr. *Henry Compton*, Bishop of *London*, the friend and patron of Mr. RAY, as he had done to that of the TRADESCANTS; and gives a list of 33 exotic trees, which were then remaining in the garden at *Fulham*. From this catalogue may be inferred, not only the original splendour of the garden, and the zeal and taste the Bishop shewed in the cultivation of such numerous curiosities, but the facility with which trees of very different latitudes may become naturalized in *England* (1).

In the same volume, page 301, we find “An Account of the Cinnamon Tree;” occasioned by a large specimen, equal in size to a walking cane, sent over by Mr. ROBINS to Dr. LETHERLAND, and which was exhibited to the inspection of the Royal Society. From this Account we learn, that three Cinnamon Trees, which were intended to have been sent to *Jamaica*, were growing in the garden of *Hampton Court* in the reign of King *William*.

(1) *Phil. Trans.* Vol. xlvii. p. 241—247.

In the year 1752, Mr. WATSON laid before the Royal Society two rare *English* plants; the *Lathræa Squamaria*, and the *Dentaria bulbifera*: the latter unnoticed both by Mr. RAY and DILLENIIUS. These were discovered by Mr. BLACKSTONE, near *Harefield* (m).

He also describes, in this volume, that singular vegetable production, noticed before under the article of *Thomas KNOWLTON*, as first discovered by him, and called *Moor Balls*, the *Conserua Ægagropila* of LINNÆUS (n).

Mr. WATSON, about this time, was the first, as I apprehend, who communicated to the *English* reader, an Account of a Revolution which was about to take place among the learned, in Botany and Zoology, respecting the removal of a large body of marine productions, which had heretofore been ranked among vegetables; but which were now proved to be of animal origin, and stand under the name of *Zoophytes*, in the present *System of Nature*. It

(m) *Phil. Transf.* Vol. xlvii. p. 428.

(n) *Ib.* p. 498.

may be easily seen that this respects the Corals, Corallines, *Escharæ*, Madrepores, Sponges, &c. and although even GESNER, IMPERATUS, and RUMPHIUS, had some obscure ideas relating to the dubious structure of this class, yet the full discovery, that these substances were the fabrications of Polypes, was owing to M. PEYSSONNEL, physician at *Guadaloupe*. This gentleman had imbibed this opinion first, in 1723, at *Marseilles*; and confirmed it, in 1725, on the coast of *Barbary*. While in *Guadaloupe*, he wrote a volume of 400 pages in 4°. in proof of this subject, which he transmitted in manuscript to the Royal Society of *London*. This treatise, in which the author seemed to have put the matter out of doubt, as to the animal origin of these bodies, was translated, analyzed, and abridged, in 1752, by Mr. WATSON; and published in the *Philosophical Transactions* (o), at a time when the learned were wavering in their opinions on this matter. M. TREMBLY's investigation re-

(o) Vol. xlvii. p. 445—469.

specting the Fresh Water Polypes had paved the way for the reception of PEYSSONNEL's truths ; and Mr. WATSON himself, in company with M. TREMBLY, had an opportunity, on the coast of *Suffex*, when on a visit at the Duke of RICHMOND's, in one of those annual excursions (*p*) which for many years he seldom failed to make in the summer season, of verifying M. PEYS-

(*p*) It may gratify the curiosity of some, who reverence the name of Mr. RAY, to be informed, that in one of these excursions, Dr. WATSON was led, by his respect to the memory of that great and good man, to visit the spot where he had lived at *Black Notley*, in *Essex*. This was in the year 1760. To Dr. WATSON this was classical ground. I was informed by him, at that time, that he found Mr. RAY's monument removed out of the church, where it formerly stood, into the church-yard, and hardly visible for brambles : these he had removed while he stayed. That he found the house in a state which indicated no alteration having taken place, except what more than half a century of time might be supposed necessarily to have occasioned ; unless that indeed some of the windows were stopped up to save the tax ; and that the orchard bore all the appearance of being, as near as possible, in the state in which it must have been in Mr. RAY's life-time. That the inhabitants of the village knew little of him ; and the people of the house had only heard that he was a great traveller.

SONNEL'S

SÖNNEL'S system, in viewing the Polypes of the Corallines.

In 1753, was printed, "An Account of the Second Volume of the *Flora Sibirica* of GMELIN;" exhibiting some extracts relating to the cure of the venereal disease, in *Siberia*, by the decoction of a species of *Cirsium*, and an *Iris*: and on the distillation of a spirituous liquor from the (q) *Spondylium*, or Cow-Parfnep.

In the same volume of the *Transactions* (r), some Observations, tending to determine what was the *Byffus* of the antients; occasioned by a substance which was sent over by Professor BOSE, of *Wittemberg*. It proved to be no other than the common *Byffus velutina*, in a bleached state; whereas the *Byffus* of the antients was judged by Mr. WATSON to be, most probably, a Cotton; which is confirmed in a very elaborate and critical Dissertation, written by Dr. Reinhold FORSTER, and published in 1776.

Remarks, additional to those of Dr. MARTYN, on the Sex of the *Holly-Tree*;

(q) *Phil. Transf.* Vol. xlviii. p. 141—152.

(r) *Ib.* p. 358.

which justified the removal of it from the *Tetrandrous* to the *Potygamous* class (s).

“ Some Observations upon the *Agaric* lately applied after Amputations, with regard to the determining its Species (t).” Some doubts had arisen relating to the exact species of the *Styptic Agaric*, which had just then excited the attention of the surgeons, both in *France* and *England*. Mr. WATSON having written afterwards to M. Bernard de JUSSIEU at *Paris*, was assured that the *French* surgeons had used the *Agaricus pedis equini facie* of TOURNEFORT, which is the *Boletus igniarius* Lin. (u).

In 1754, Mr. WATSON wrote an Account of the first Edition of the *Species Plantarum* of LINNÆUS; which was published in the *Gentleman's Magazine*, p. 555 for that year. It is not only highly worthy of being read, for the useful information, and curious critical matter it contains; but also on account of its having produced from that celebrated Professor, a handsome letter,

(s) *Phil. Transf.* Vol. xlviii. p. 615.

(t) *Ib.* p. 811.

(u) *Ib.* Vol. xlix. p. 23.

written in *Latin*; in which he takes occasion to acknowledge the candour, and skill of the author, in high terms; and vindicates himself for having, in his work above-mentioned, given to the *Meadia* (a plant so called by CATESBY, in honour of Dr. MEAD) a different name. LINNÆUS's Letter was printed the succeeding year, in the same publication (w).

In 1758, he had occasion to confirm the fatal effects of the *Oenanthe crocata*, or Hemlock Dropwort, by the death of a person at *Havant*, in *Hampshire*, from having taken about four spoonfuls of the juice of the root, instead of that of the Water-Parsnep. It was observed, that in this instance, as in that of the *French* prisoners, all the sufferers were affected with the locked jaw (x).

These talents, it may be easily imagined, rendered him a welcome visitor to Sir
Hans

(w) *Gent. Mag.* Vol. xxv. p. 317.

(x) *Phil. Transf.* Vol. 1. p. 856—9.

I take this opportunity to remark also, that, in the case of a young woman poisoned by the same means, which is printed in the 5th volume of the *London Medical Jour-*

Hans SLOANE, who had retired to *Chelsea* in 1740. In fact, he enjoyed no small share of the favour and esteem of that veteran in science; and was honoured so far, as to be nominated one of the Trustees of the British Museum by Sir *Hans* himself, who died Jan. 11, 1753.

After its establishment in *Montagu House*, Mr. WATSON was very assiduous, not only in the internal arrangement of subjects, but also in getting the garden furnished with plants; insomuch that, in the first year of its establishment, in 1756, it contained no fewer than 600 species, all in a flourishing state.

Having given ample specimens of the genius and abilities of Mr. WATSON, as a naturalist, we must now consider his talents in some other branches of knowledge. Among these, nothing contributed so much to extend his fame, and enlarge his connexions with men of science, as his discoveries in

nal, p. 192—193. subsequent enquiry has convinced me, that the incapacity of swallowing, with which she was affected before her death, arose from the same affection of the jaw.

electricity.

electricity. He became early enamoured with the phænomena of this wonderful agent in nature; an attention to which had been some time before excited, among the philosophers of *Europe*; and particularly in *England*, by Mr. *Stephen GRAY*, of the Charter-House; *Granville WHEELER*, Esq; Dr. *DESAGULIERS*; and others.

About the year 1744, Mr. *WATSON* took it up, and made several important discoveries in it. At this time, it was no small advancement in the progress of electricity, to be able to fire spirit of wine. He was the first in *England* who effected this, and he performed it, both by the *direct*, and the *repulsive* power of electricity. He afterwards fired inflammable air, gunpowder, and inflammable oils, by the same means. He also instituted several other experiments, which helped to enlarge the power of the electrician; but the most important of his discoveries was, the proving, that the electric power was not created by the globe or tube, but only collected by them. Dr. *FRANKLIN*, and Mr. *WIL-*

son, were alike fortunate, about the same time. It is easy to see the extreme utility of this discovery in conducting all subsequent experiments. It soon led to what he called "the circulation of the electric matter."

Besides these valuable discoveries, the Historian of Electricity informs us, that Mr. WATSON first observed the different colour of the spark, as drawn from different bodies; that electricity suffered no refraction in passing through glass; that the power of electricity was not affected by the presence or absence of fire, since the sparks were equally strong from a freezing mixture, as from red hot iron; that flame and smoke were conductors of electricity; and that the stroke was, as the points of contact of the non-electrics on the outside of the glass. This investigation led to the coating of phials, in order to increase the power of accumulation; and qualified him eminently to be the principal actor in those famous experiments, which were made on the *Thames*, and at *Shooter's Hill*, in the

3

years

years 1747 and 1748; in one of which, the electrical circuit was extended four miles, in order to prove the velocity of electricity; the result of which convinced the attendants that it was instantaneous (y.)

It ought also to be remembered, that

(y) ‘ These, and other experiments, were made in so great a style, and with such success, as to draw the approbation and applause of almost all succeeding philosophers in that branch. Among others, the celebrated VOLTA has given him testimony of the excellence and greatness of his experiments, in a paper published within these few years. In that paper, he shews how simple electrical conductors might be so constructed, as not only to give shocks like the *Leyden* phial, but even such as are sufficiently powerful to kill large animals, and to equal the effects of lightning. He however expresses his despair of ever seeing such put into execution; but adds—“ *Un WATSON forse sat ebbe tentato di farlo, &c.*” A WATSON perhaps might be tempted to make the experiment: he who for another purpose (which was, that he might shew the extreme velocity, with which the electrical power communicated itself, from one extremity of a conductor to the other, however great its length) extended insulated iron wires to more than two miles in length; and to whom, on account of these very experiments, MUSCHENBROEK took occasion to address himself as follows: *Magnificentissimis tuis experimentis superasti conatus omnium.* See a paper in *Opere Scelti di Milano* date Como 20 Aug. 1778.”

Mr.

Mr. WATSON conducted some other experiments, with so much sagacity and address, relating to the impracticability of transmitting odours, and the power of purgatives through glass; and those relating to the exhibition of what was called the "Glory round the Head," or the "Beatification," boasted to have been done by some philosophers on the continent; that he procured, at length, an acknowledgment from Mr. BOSE, of what he called "an Embellishment," in conducting the experiments; a procedure totally incompatible with the true spirit of a philosopher!

Mr. WATSON's first papers on the subject of Electricity, were addressed, in three letters, to *Martin FOLKES*, Esq; President of the Royal Society, dated in March, April, and October 1745; and were published in the *Philosophical Transactions* (2), under the title of "Experiments and Observations tending to illustrate the Nature and Properties of Electricity." These were followed in the beginning of the next year

(2) *Phil. Transf.* Vol. xliii. p. 481—501. and Vol. xliv. p. 695—704.

(1746) by "Farther Experiments, &c. (a);" and these by "A Sequel to the Experiments, &c."

These tracts were collected, and separately published in octavo, and reached to a third or fourth edition. They were of so interesting a nature, that they gave him the lead, as it were, in this branch of philosophy; and were not only the means of raising him to a high degree of estimation at home, but of extending his fame throughout all *Europe*. His house became the resort of the most ingenious and illustrious experimental philosophers that *England* could boast.

Several of the nobility attended on these occasions; and his present Majesty GEORGE III. when Prince of *Wales*, honoured him with his presence. In fact, there needs no greater confirmation of his merit, at that early time, as an electrician, than the public testimony conferred upon him by the Royal Society, which, in 1745, presented him with Sir *Godfrey* COPLEY's medal, for his discoveries in electricity.

(a) *Phil. Trans.* Vol. xlv. p. 704—749.

After this mark of distinction, Mr. WATSON continued to prosecute electrical studies and experiments, and to write on the subject for many years. Between the year 1745, the date of his first paper, and the year 1764, that of the last, we find all those papers which I have recited below (b).

After

(b) Observations upon so much of Monsieur *le MOUNIER* the younger's Memoir, lately presented to the Royal Society, as relates to the Communication of the *Electric Virtue* to Non-electrics. Jan. 1746-7. Vol. xlv. p. 388—395.

A Collection of Electrical Experiments. Vol. xlv. p. 49—92. These were the first experiments made by Mr. WATSON to determine the velocity of electricity, and the distance to which its power might be carried; made on the Thames, in July and August, 1747.

Further Enquiries into the Nature and Properties of Electricity. Jan. 1748. Ib. p. 93—120.

Experiments made to determine the absolute Velocity of Electricity. Oct. 1748. Ib. p. 491—6. Made at *Shooter's Hill*.

A Letter from Mr. *William* WATSON, F. R. S. to the Royal Society, declaring that he, as well as many others, have not been able to make *Odours* pass through Glass, by means of Electricity; and giving a particular Account of Professor BOSE at *Wittemberg*, his Experiment of *Beatification*, or causing a Glory to appear round a Man's Head by Electricity. March 1. 1750. Vol. xlv. p. 348—356.

And

After writing the last of these, he was appointed, by the Royal Society, one of the Committee in 1772, to examine into the state of the powder-magazines at *Purfleet*; and with the Honourable Mr. CAVENDISH, Dr. FRANKLIN, and Mr. ROBERTSON, fixed

An Account of Mr. B. FRANKLIN's Treatise, intituled, "Experiments and Observations on Electricity, made at *Philadelphia, in America.*" June 6, 1751. Vol. xlvii. p. 202—210.

An Account of Professor WINKLER's Experiments relating to Odours passing through electrified Globes and Tubes, &c.; with an Account of some Experiments made here with Globes and Tubes transmitted from *Leipsic*, by Mr. WINKLER. June 20, 1751. Ib. p. 231—240.

An Account of the Phenomena of *Electricity in Vacuo*; with some Observations. Feb. 1752. Ib. p. 362—375.

A Letter concerning the Electrical Experiments in *England*, upon Thunder Clouds. Dec. 21, 1752. Ib. 567—570.

An Answer to Dr. LINING's Query, relating to the Death of Professor RICHMAN. July 4, 1754. Vol. xlviii. p. 765—772.

An Account of Abbé NOLET's Treatise concerning Electricity, extracted and translated from the *French*. May 17, 1753. Ib. p. 201—216.

An Account of Dr. BOHADSCH's "*Dissertatio Philosophico-medico de Utilitate Electrificationis in curandis Morbis*;"
printed

fixed on pointed conductors as preferable to blunt ones ; and again, was of the Committee in 1778, after the experiments of Mr. WILSON in the Pantheon.

printed at *Prague* in 1751. Extracted and translated from the *Latin*. Jan. 23, 1752. Vol. xlvii. p. 345—351.

An Account of Dr. BIANCHINI's "*Recueil d'Experiences faites à Venise sur le Medicine Electrique.*" March 12, 1752. Ib. p. 399—406.

An Account of a Treatise in *French*, intitled "*Lettres sur l'Electricité ;*" by the Abbé NOLET. Dec. 17, 1761. Vol. lii. p. 336—343.

Suggestions concerning the preventing the Mischiefs which happen to Ships and their Masts by Lightning ; in a Letter to George Lord ANSON, First Lord of the Admiralty. Dec. 1762. Ib. p. 629—635.

Observations on the Effects of Lightning ; with an Account of the Apparatus proposed to prevent its Mischiefs to Buildings, more particularly to Powder Mills. Being Answers to certain Questions proposed by M. CALANDRINI, of *Geneva*. June 28, 1764. Vol. liv. p. 201—227. Including an Account of the Mischief *St. Bride's* Steeple sustained by Lightning on the 18th of June 1764.

C H A P. 51.

Account of Sir William Watson continued — His great acquaintance with the police of the city of London — Miscellaneous papers written by him — His tracts on medical subjects printed in the Philosophical Transactions — Zoological papers — Created Doctor of Physic by the Universities of Halle and of Wittemberg — His experiments on inoculation — His medical writings in the London Medical Observations — Constituted one of the Vice-Presidents of the Royal Society — Elected Fellow of the College of Physicians — Has the honour of knighthood conferred on him — His death, and character.

W A T S O N.

AS Mr. WATSON had constantly lived in London, he had been a curious observer of the wonderful increase and improvement of that vast city. He was acquainted, in no ordinary degree, with its history, and its police in general; and had particularly attended to those circumstances that were more immediately the objects of the

the philosopher and the physician. This knowledge enabled him frequently to suggest useful hints; one of which highly deserves to be mentioned, as it respects an object of great importance to the public.

In the hard winter of 1756, he wrote “Some Observations on preventing the freezing of Water in the Leaden Pipes of the City of *London*,” occasioned by the injudicious and ineffectual method, practised frequently, of strewing dung in the streets over the pipes. These were printed in the *Gentleman’s Magazine* (a) for January 1757, p. 6. in which is pointed

(a) The method was simply by means of two additional brass cocks. One to be inserted into the leaden pipe, two feet before it comes into the air, guarded by a wooden case, filled up with horse litter, and reaching near to the surface of the ground, and covered over, even with the ground, by a brick or stone. This is to serve as a stop-cock, and to be turned by the help of an iron key. The other cock is to be fastened to the leaden pipe in the open air, in any part of its length, provided it be somewhat below the level of the stop-cock. This is inserted simply to empty the leaden pipe of all its water, after it has been turned off by the stop-cock. From the description of this apparatus, the method of using it is obvious.

out

out a successful method of effecting the purpose, which he had himself employed in the severe winter of 1739-40. Other instances, besides this, occur, of his attention to whatever might advance the welfare of the public. So early as the year 1742, he had laid before the Royal Society “Some Observations upon Mr. Sutton’s Invention to extract the foul and stinking Air from the Well and other Parts of Ships: With critical Remarks upon the Use of Windfalls.” In which he suggests several improvements in that useful invention (*b*).

In 1753, he published Mr. Appleby’s Process for rendering Sea-water fresh (*c*).

In 1768, an Account of Mr. Charles MILLER’s Experiments on the sowing of Wheat, and dividing the Root; by which means were produced, in one year, from one grain, 21,109 ears, which yielded three pecks and three quarters of clean corn, weighing forty-seven pounds seven ounces;

(*b*) *Phil. Transf.* Vol. xlii. p. 62—70.

(*c*) Vol. xlviii. p. 69.

and the number of grains, calculated by the number in one ounce, might be 576,840 (*d*). It is to be feared that this method can scarcely be reduced to advantageous practice on a large and agricultural plan.

In the same year, an Account of the Oil extracted from the *American Earth-nut*, or, more properly, *Ground Pease* (*e*). This plant, like a few others of the same class, has the singular property of protruding its seed-vessel into the ground, where it ripens the fruit; hence it is named by RAY, *Arachis Hypogaios*. The oil of this pulse is so mild and well tasted, and withal so easily procured, that it might bid fair to supersede that of olives, or even oil of almonds. It is cultivated in *North Carolina*, and might advantageously be raised in the Sugar Islands (*f*).

As from the earliest times of the Royal Society, it had been customary to request of some member, properly qualified from his knowledge of the subject, to review, and

(*d*) *Phil. Transf.* Vol. lviii. p. 203.

(*e*) *Arachis hypogæa* Lin. *Spec. Plant.* p. 1040.

(*f*) *Phil. Transf.* Vol. lix. p. 379—383.

lay before that body at their usual meetings, any such extracts from the numerous publications which were sent to the Society, relating to discoveries in philosophy and the arts, as promised to be of general utility, that they might be recorded in the *Philosophical Transactions*, this office did not unfrequently fall upon Mr. WATSON. We find several papers of this nature bearing his name. Besides those which I have enumerated, relating to natural history strictly, and electricity, are the following, as recited below (g).

Of his productions which have a more immediate reference to physic, the first was published in the *Philosophical Transactions*, N° 459. “A Case wherein Part of the “Lungs were coughed up.” And in the succeeding Number, “An Observation re-

(g) An Account of a Book, intitled “*De quamplurimis Phosphoris nunc primum detectis Commentarius Auctore Jac. Barthol. Beccario.*” 4°. Bolog. 1744. Feb. 1746. Vol. xliv. p. 81—91.

An Account of a Treatise in *Latin*, dedicated to the Royal Society, intitled “*Commentatio de Prærogativa Thermarum Carolinarum in dissolvendo Calculo Vericæ præ Aquâ Calcis vivæ. Auct. G. C. Springsfeld.*” Vol. xlix. p. 895—906.

“ lating to Hydatides voided *per Vaginem* (b).”

In 1744, an Account, and Analyfis, of a Stone, which, when first taken out of the stomach of a coach-horse, weighed three pounds two ounces avoirdupois weight, and measured seventeen inches by sixteen.

On examination, it appeared to be not so much a concretion of the kind called *Egagropila*, as of the *bezoardic* texture (i). Mr. WATSON had afterwards an opportunity of exhibiting to the Society a *Calculus*, taken from the belly of a mare, which weighed fifteen pounds twelve ounces. Even this, however, was exceeded by one from a dray-horse belonging to Sir *Henry Hicks* at *Deptford*, which weighed nineteen pounds, exclusive of some of the crust broken off (k).

In 1749, he laid before the Royal Society, “ An Account of the *Vomito Prieto* of “ *Carthagera*,” called on the spot *La Chapetonade*. This was extracted from Don ULLOA’s Voyage to *South America*, just

(b) *Phil. Transf.* Vol. xliii. p. 623. and p. 711.

(i) *Ib.* p. 268.

(k) Vol. xlviii. p. 800.

then

then published at *Madrid* (l). This disease is described by SAUVAGES under the name of *Vomitus rabiosus*.

In the same volume, “ Cases of the *Fæ-tus in Utero* being differently affected by “ the Small-pox.” In one of these, a female child was born with evident marks of the small-pox upon her, and was not susceptible of the disease when inoculated at four years old with her brother, who passed through it very favourably. The girl grew pale, and lost her appetite ; but her indisposition wore off in two or three days. The other is the case of a lady, who had the small-pox to a great degree when seven months gone with child, which was at the same period of pregnancy under which the mother of the above-mentioned child passed through the distemper. The offspring of this lady, however, went through the disease in the natural way, at the age of four or five years (m).

All who were acquainted with the ex-

(l) *Phil. Transf.* Vol. xlv. p. 134.

(m) *Ib.* p. 235.

tent of Mr. WATSON's knowledge in the practice of physick, in natural history, and experimental philosophy, were not surpris'd to see him rise into the higher line of his profession. This event took place in 1757, previous to which he had been chosen a member of the Royal Academy of *Madrid*; and he was created doctor of physick by the University of *Halle*, under a diploma, bearing date September the 6th. The same honour was conferred upon him by that of *Wittemberg* about the same time. Soon after which he was disfranchis'd from the Company of Apothecaries. He became a licentiate of the College of Physicians in 1759.

This alteration in his circumstances and prospects, hazardous as it might be considered by some, occasioned no diminution in his emoluments, but far the contrary. He had before this time removed from *Aldersgate Street* to *Lincoln's Inn Fields*, where he lived the remainder of his days; and now he found himself at greater liberty to pursue his studies, and carry on at more leisure the extensive literary connexion in which he was

was engaged, both at home and abroad. He kept up a close correspondence with Dr. HUXHAM for many years. We find among his correspondents abroad, the names of M. PEYSSONNEL, CLAIRAUT, BOSE, the Abbé NOLLET, M. ALLEMAND, M. JUSSEU, and many others, as may be seen from the letters communicated by him to the Royal Society.

In October 1762, Dr. WATSON was chosen one of the physicians to the Foundling Hospital, which office he held during the remainder of his life.

We find also two zoological articles laid before the Royal Society by Dr. WATSON. The first of these relates to the insect called the *Vegetable Fly*, which had imposed on the credulity of many, under the idea of its being an insect flying about with a vegetable growing on its back: whereas in fact it was nothing more than a fungus of the *Clavaria* genus, growing from the dead nymph of a *Cicada*, as well as from any other putrid animal substances (*n*). The first author who seems to have counte-

(*n*) *Phil. Transf.* Vol. liii. p. 271. tab. 23.

nanced this error, was Father TORRUBIA, in his “*Apparato para la Historia natural Española*,” printed at *Madrid*. Fol. 1754. He describes and figures a prickly plant, vegetating from a dead wasp. Both these productions are figured by Mr. EDWARDS, in the third part of his “*Gleanings*,” tab. 335, 336.

The second paper is a Description, accompanied by a large engraving of the American Armadillo, called *Dasybus novemcinctus* by LINNÆUS, the nine-banded Armadillo (*o*).

In 1758, was printed part of a letter to Dr. HUXHAM, being an account of some extraordinary effects arising from convulsions, in a young lady, which ended in a deprivation of speech, and temporary blindness. These symptoms lasted fourteen months, and were at last suddenly removed after she had heated herself by four hours dancing (*p*).

“Some Observations relating to the *Lyncurium* of the Antients;” tending to prove

(*o*) *Phil. Transf.* Vol. liv. p. 57. t. 7.

(*p*) *Ib.* Vol. l. p. 743.

that

that it was the *Tourmalin* of the moderns (q).

In 1762, a Letter to Dr. HUXHAM, containing some Remarks on the *Influenza* of that year, and on the Dysentery which succeeded it (r).

Observations upon the Effects of Electricity, applied to a *Tetanus*, or muscular rigidity, of four months continuance. For the first three weeks the stiffness was confined to the jaw, but afterwards extended to a total rigidity of the spine. Electrization was continued for ten weeks with a sensible advantage, and the girl was wholly restored to health (s).

In 1764, Dr. WATSON laid before the Royal Society “ An Account of what appeared on opening the Body of an Asthmatic Person.” This was a young man, aged twenty-eight, who died after being afflicted with an asthma only two months. The lungs were found in an extraordinarily emphysematous state, and the pulmonary

(q) *Phil. Transf.* Vol. li. p. 394.

(r) *Ib.* Vol. lii. p. 646.

(s) *Ib.* Vol. liii. p. 10—26.

vein varicose in a great degree. A foreneis of the chest, succeeded by a cough and a shortness of breath, had in this young man's case immediately succeeded a violent and long-continued vomiting; to which cause Dr. WATSON was inclined to attribute the origin of this disease (*t*).

Part of a Letter to Dr. HUXHAM, giving some account of the late cold weather, dated *London*, Feb. 14, 1767. By this it appears that the thermometer in *London* stood, when at the lowest, on the 19th, at eight in the morning, at $15''\frac{1}{2}$: and on the same day, at *Norwich*, it was observed as low as seven degrees (*u*).

In 1768, Dr. WATSON published “An Account of a Series of Experiments, instituted with a view of ascertaining the most successful Method of inoculating the Small-pox.” 8°. These experiments were designed to prove whether there was any *specific* virtue in preparatory medicines: whether the disease was more favourable when the matter was taken from

(*t*) *Phil. Transf.* Vol. liv. p. 239—245.

(*u*) *Ib.* Vol. lvii. p. 443.

the natural, or the artificial pock: and, whether the crude lymph, or the highly-concocted matter, produced different effects. The result was, what succeeding and ample experience has confirmed, that after due abstinence from animal food, and heating liquors, it is of small importance what kind of variolous matter is used; and that no preparatory specifics are to be regarded.

Of Dr. WATSON's papers on medical subjects, printed in other publications, it will be unnecessary to give a detailed account; as they are well known to medical practitioners in general. Nevertheless, that the list of his productions may be complete, I shall recite them briefly.

“An Account of the good Effects of *Magnesia* in severe Vomitings (x).”

“Observations on the *Hydrocephalus internus* (y).”

“An Account of the Putrid Measles, as

(x) *London Medical Observations*, Vol. iii. p. 335—340.

(y) *Ibid.* Vol. iv. p. 78—88.

“ they were observed in *London* in the years
“ 1763 and 1768 (z).

“ An Appendix to the Paper on the *Hy-*
“ *drocephalus internus* (a).”

This disease, on which Dr. WHYTT, Dr. WATSON, and others, have lately written in so instructive a manner, deserves to be accurately noticed, and the knowledge of it strongly inculcated; as, in the country at least, it is not unfrequently mistaken, and treated as a putrid and comatose fever.

As Dr. WATSON lived in intimacy with the most illustrious and learned Fellows of the Royal Society; so he was himself one of its most active members, and ever zealous in promoting the ends of that institution. For many years he was a frequent member of the council; and, during the presidentship of Sir *John* PRINGLE, was elected one of the vice-presidents; which honourable office he continued to fill to the

(z) *London Medical Observations*, Vol. iv. p. 132—155.

(a) *Ibid.* p. 321—329.

end of his days. He was a most constant attendant on the public meetings of the Society ; and on the private associations of its members, especially on that formerly held every Thursday, at the Mitre, in *Fleet Street*, and now at the Crown and Anchor Tavern, in the *Strand*.

In 1784, Dr. WATSON was chosen a Fellow of the Royal College of Physicians ; and made one of the Elects. In the succeeding year, he communicated to the College, “ An Account of a disease occasioned by transplanting a Tooth.” This was inserted in the *Medical Transactions* ; and this, I believe, was the last paper he wrote (*b*).

In 1786, he had the honour of knighthood conferred upon him ; being one of the body deputed by the College to congratulate his Majesty on his escape from assassination.

In general, Sir *William* WATSON enjoyed a firm state of health. It was sometimes interrupted by fits of the gout ; but these seldom confined him long to the house. In

(*b*) P. 325—338.

the

the year 1786, the decline of his health was very visible to his friends, and his strength was greatly diminished, together with much of that vivacity which so strongly marked his character. He died May 10, 1787.

Sir *William* WATSON had a natural activity both of mind and body, that never allowed him to be indolent in the slightest degree. He was a most exact œconomist of his time, and throughout life a very early riser, being up usually in summer at six o'clock, and frequently sooner; thus securing to himself daily two or three uninterrupted hours for study. In his younger days, these early hours, as I have before observed, were frequently given up to the purposes of simpling; but, in riper years, they were devoted to study. He read much and carefully; and his ardent and unremitting desire to be acquainted with the progress of all those sciences which were his objects, joined to a vigorous and retentive memory, enabled him to treasure up a vast stock of knowledge. What he thus acquired, he freely dispensed. His mode of conveying information was clear, forcible, and

and energetic, and justified the encomium bestowed upon him by a learned foreigner, in a letter to a correspondent (c).

His attention, however, was by no means confined to the subjects of his own profession, or those of philosophy at large. He was a careful observer of men, and of the manners of the age; and the extraordinary endowment of his memory had furnished him with a great variety of interesting and entertaining anecdotes, concerning the characters and circumstances of his time (d).

On all subjects, his liberal and communicative disposition, and his courteous behaviour, encouraged enquiry; and those who sought for information from him, sel-

(c) WATSONIUS *Botanicus et Physicus clarus est et perspicax homo, itidemque humanissimus.* M. Meckel, of Berlin, in *Epistolis ad HALLERUM datis*.

(d) It is to Sir William WATSON that we owe the preservation of an anecdote, which tends further to illustrate the character, and exalt the sincerity and integrity of the excellent Mr. ADDISON. It is inserted in the *Addenda* to his Life, in the third volume of the *Biographia Britannica*. Dr. KIPPIS also acknowledges himself the most indebted to him for the materials of the life of the late Henry BAKER, Esq.

dom departed without it. In his epistolary correspondence he was copious and precise; and such as enjoyed the privilege and pleasure of it, experienced in his punctuality another qualification which greatly enhanced its value.

Some of the first of Sir *William* WATSON'S papers in the *Philosophical Transactions*, evince his early proficiency in the science of Botany, and especially his acquaintance with the *English* species: nor was he less skilled in exotics in his riper years. That he was very soon considered on the continent as highly respectable in this light, is manifest from his having been one of the few in *England*, whom Mr. CLIFFORD gratified with a copy of the *Hortus Cliffortianus*; a work, at its first publication, only attainable by those whose studies and acquirements in the subject of it, entitled them to receive it from the munificence of Mr. CLIFFORD himself. In fact, all learned foreigners, of the same bias in their studies, brought letters of recommendation to him; and, on their return, failed not, both in their correspondence and in their writings,

tings, to bear honourable testimony to his learning and abilities.

Sir *William* WATSON had learned to know plants by the system and nomenclature of RAY, when *trivial* names were unknown; and he was so singularly happy in a tenacious memory, as to be able to repeat, with wonderful promptitude, the long names which had been in use from the times of BAUHINE, GERARD, and PARKINSON; a task from which botanists are relieved, by the introduction of the *Linnaean trivial* epithets. He lived to see the system of his much-honoured countryman give way to that of the *Swede*, which began to take place in *England* about this period; and with which also he made himself acquainted. His knowledge of plants, and the history of them in the various authors, was so eminently extensive, that his opinion was frequently appealed to as decisive on the subject; and by some of his intimate friends he was usually called “The living Lexicon of Botany.” Had it been the lot of Sir *William* WATSON to have been devoted to Botany as an official employment;

VOL. II. Z ployment;

ployment; or had the more important avocations of his profession allowed a further indulgence to his favourite bias, such an union of natural endowments and acquired knowledge as he possessed, must have placed him very high among the naturalists of this age.

It remains for me to do justice to the worth of Sir *William* WATSON as a physician, and as a member of society. But as these parts of his character have been already delineated with great truth and discrimination by my much-respected friend Dr. GARTHSHORE, I shall conclude this account by some extracts from the Memorial read by him to a society of physicians, of which Sir *William* had been the president.

“ As a physician, his humanity, assiduity,
“ and caution, were eminently conspicuous;
“ and his exact observance of the duties of
“ social politeness must ever be remembered
“ with pleasure by all those who enjoyed
“ the happiness of his acquaintance.
“ The smile of benignity was always displayed
“ on his countenance; he invariably
“ bly

“ bly continued the general, the ready, and
“ the obliging friend of mankind ; he was
“ respectful to the elder and superior, en-
“ couraging to the younger, and pleasant
“ and easy to all with whom he had any
“ intercourse. The same affability and good
“ humour which adorned his character in
“ public life, were preserved also in the bo-
“ som of his family, and endeared him to
“ those who were more immediately around
“ him. He was scarcely ever out of tem-
“ per, was always benignant and kind to
“ his friends and relations—and, it would
“ be injurious to his memory not to men-
“ tion an anecdote which equally displays
“ his humanity, and the warmth with
“ which he interested himself in the cases
“ of his patients—Not many years before
“ his death, he was waked suddenly one
“ morning very early by his servant, who
“ came to inform him that his house had
“ been broken open, and that his plate
“ (which was of considerable value) was
“ stolen—“ Is that all ?” said he, coolly—
“ I was afraid you had brought me some
“ alarming message from Mr. —, con-
“ cerning

“ cerning whose dangerous situation I have
“ been very uneasy all night (e).”

(e) In 1759, Mr. MILLER paid Dr. WATSON the tribute of calling a new genus in the *Triandrous* class after his name; two species of which he has figured in the “Cuts adapted to the Gardener’s Dictionary,” tab. 276. and tab. 297. fig. 2. It proved that Dr. TREW had before given the name of *Meriana* to the first of these; and LINNÆUS found himself obliged by the rules of his system, to reduce these two species to his genus *Antholyza*, already established in the *Species Plantarum*; thus sinking the generic term of *Watsonia*, and retaining TREW’s as a *trivial* name to the plant of tab. 276. It is to be regretted that, in justice to Dr. WATSON, who had deserved so eminently well of the science, that LINNÆUS did not at least name the lesser species, tab. 297. 2. of MILLER, *Antholyza Watsonia*, instead of *A. Merianella*.

C H A P. 52.

Linnæus—*visits England—Cool reception of him by Sir Hans Sloane—Dillenius sensible of his merit; but indisposed to receive the sexual system—Botany at this juncture in a languid state in England—Linnæus's writings diffused in England about the year 1740—Grufberg's Flora Anglica—Brown's Jamaica Plants—Stillingfleet's Tracts—Lee's Introduction—Hill's Flora Britannica—Hudson's Flora Anglica—Dr. Solander—Linnæus's system adopted in the public lectures at Cambridge and at Edinburgh—and, finally, received and established in England.*

L I N N Æ U S.

AS I am now arrived beyond the period, when the name of LINNÆUS began to be celebrated throughout Europe, it will be necessary to recur to the circumstances of his visit to this country, that the introduction and full establishment of his system in this kingdom, may be better illustrated. Here, had his reception been

more encouraging to his wishes, it has been said, he was disposed to have taken up his residence. He had been some time in *Holland*, under the patronage, and in the house, of Mr. CLIFFORD. He had taken his degree of doctor in physic. He had gained the esteem of BOERHAAVE, and from him brought letters of recommendation to the literati of *England*.

The fame of Sir *Hans SLOANE* and his Museum, and the esteem in which LINNÆUS held the character of DILLENIUS, added to the desire of inspecting the *Sherardian Pinax*, were among the most powerful motives that induced the *Swede* to visit *England*. This event took place in the spring of 1736. I am only able to ascertain the season of the year, from being informed of the pleasure he expressed, in meeting in the fields with those productions of *England*, that are not spontaneously growing in *Sweden*. His delight particularly, in seeing under the hedges the *Hycinth* in full flower, can only be conceived by those who possess some share of that botanical ardour which he possessed.

At this time, the sexual system existed only in its outline. Enough of it, however, was manifested in the *Florula Laponica*, printed in the *Acta Upsalienſia*, for the years 1732 and 1733, and in the first sketch of the *Systema*, in 1735, to exhibit its novelty. I know not that the *Fundamenta Botanica*, the *Bibliotheca*, and the *Musa Cliffortiana*, although they bear date in 1736, had reached *England* before the author: yet, notwithstanding the warm recommendation of BOERHAAVE, Sir *Hans Sloane*, considered at that time as the *Mecænas* of Botany in this island, gave the author, and his system, an unfavourable reception. At the age of seventy-six, we need not be surprised that the veteran should not feel disposed to learn a new system, from a young man, whom he could not but consider as an adventurer, both in fortune, in fame, and in science. SLOANE, moreover, had never paid sufficient attention to the improvement of science in the construction of generical characters; and this circumstance, probably, set him at a farther distance from embracing the system of

LINNÆUS, which exhibited an arrangement so widely different from the undefined assemblage of the History of *Jamaica*.

It must not however be understood, that Sir *Hans* SLOANE remained insensible to the genius and accomplishments of LINNÆUS: on the contrary, when he afterwards sent him his *Flora Lapponica*, Sir *Hans* SLOANE wrote him a letter, bearing date Dec. 20, 1737, expressive of the great pleasure he received in the perusal of it; exhorting him to elucidate the remaining parts of the natural history of his country, on the same plan.

DILLENIUS was highly sensible of his merit, and gave him the most polite reception. But that he who had been so long versed in the systems of TOURNEFORT and RAY, and after having given improvement to the latter, by which he had deserved and received the applause, not of *England* alone, but of all *Europe*, should abandon that system, to embrace the hitherto uncountenanced novelties of LINNÆUS, could not reasonably be expected.

The

The journey into *England* however, was, on the whole, highly gratifying to LINNÆUS. He beheld with astonishment the collections of SLOANE, and, with rapture, the *Herbaria* of PETIVER, PLUKENET, BUDELLE, and of many others there reposit-ed, whose names were familiar to him. At *Oxford* he inspected, with no less satisfaction, the *Pinax* of SHERARD, which he had eagerly wished to see published, and of which DILLENIIUS had compleated about a fourth part. But an undertaking of that nature and extent, after the death of the first projector of it, demanded a patronage and an expence, not easily obtained.

About the time LINNÆUS made his tour into this country, indigenous botany was on the whole in a languishing state. It no longer felt that degree of support, which the SHERARDS, and Sir HANS, had afforded it. The Consul was dead; and the declining years of Dr. *James* SHERARD, and of Sir *Hans* SLOANE, began to withdraw them from the bustle, and almost from the business, of life. After the publication of RAY's *Synopsis* by DILLENIIUS, in 1724,

no

no work of magnitude on the *English* botany, except the *Historia Muscorum*, in 1741, took place for many years ; not that there were wanting several individuals, who were eminent for their knowledge of indigenous botany, and zealous in propagating it : as instances, I refer to the names of WATSON, COLLINSON, MILLER, and BLACKSTONE. The arrival however of LINNÆUS in *England*, and the consequent promulgation of his method, excited that curiosity which novelty will ever attract, and, although his system might be but little relished at the instant, by the *English* naturalists in general, there were yet a few into whose minds his doctrines silently insinuated themselves, and gained approbation.

In the year 1737, the next after LINNÆUS left *England*, he published the *Genera Plantarum*, which compleatly unfolded the sexual system, as far as related to classical and generical characters ; and in the same year exemplified it in the species, by the *Flora Lapponica*, and the *Hortus Cliffortianus*. At the same time, anxious as it should seem above all, to gain the ap-
probation

probation of DILLENIUS, he dedicated to him the *Critica Botanica*; in which he explains his reasons for the change of names, and for the establishment of new distinctions, both of which, he well knew, would be considered as dangerous innovations.

These volumes soon found their way into the libraries of the curious in *England*; though the *Hortus Cliffortianus* was, at first, only dispersed through the munificence of Mr. CLIFFORD. The simplicity of the classical characters as the basis, the uniformity of the generical notes, confined wholly to the parts of fructification, and that precision which marked the specific distinctions, advantages, of which all foregoing systems were destitute, soon commanded the assent of the unprejudiced; and an interval of a few years, gave LINNÆUS's method a decided superiority with *English* botanists.

After the establishment of LINNÆUS in the professorship in the year 1741, the publication of the *Theses*, afterwards, in a collected form, called the *Amœnitates Academicæ*, commenced, and, in less than ten years,

years, two volumes had been published. These tracts, by the variety of useful and entertaining knowledge, with which they abound, equally extended and augmented the reputation of LINNÆUS. They convinced his opposers, that his knowledge was not bounded by mere nomenclature, and systematic arrangement, as was reproachfully objected.

CONCLUSION.

In *England*, Dr. MARTYN, in his *Virgil*, published in 1740; DILLENIUS, in his *Historia Muscorum*, 1741; and BLACKSTONE, in his *Specimen Botanicum*, 1746, had referred to the writings of LINNÆUS; and occasionally his name had been mentioned in the *Philosophical Transactions*, and other periodical works: but, as yet, no translation of any part of his writings, or any publication on his plan, had been made in this country, until, in 1754, a *Swedish* pupil of the *Upsal* school arranged, by the generic and trivial names only, all the plants of RAY's *Synopsis*, according to the system of his master. This little tract was immediately

mediately transmitted to the Royal Society, and excited much attention among those professed students, and lovers of *English* botany, who obtained the perusal of it.

In 1756, Dr. BROWNE classed all his *Jamaica* plants, amounting to 1200 species, in the same method. The drawings having been made by EHRET, had the advantage of separate delineations of the flower and fruit.

In 1759, Mr. STILLINGFLEET published a Translation of several Tracts from the *Amœnitates*; and, by his own valuable additions, his instructive Preface, the judicious and learned notes interspersed throughout the book, by his own "Calendar of "Flora," confirming and illustrating that of the *Swede*, greatly conduced to exalt the reputation of LINNÆUS in *England*. Of this learned and excellent man, the reader will find some memoirs in the *Gentleman's Magazine* for 1776, which were afterwards incorporated into "Anecdotes of Mr. Bowyer" (see p. 300), and into the *Biographia Dramatica*, 2d edition, 1782.

The next year, Mr. LEE, by his Translation

lation of the *Elements* of the Sexual System, much contributed to facilitate the knowledge, and extend the progress and popularity of it, among the less learned of his countrymen, or such as were unable to recur to the *Fundamenta*, or *Philosophia Botanica* of the author.

At this juncture, it is material among those circumstances which accelerated the progress of the new system, to mention the arrival of the late much-lamented Dr. SOLANDER, who came into *England* on the first of July, 1760. His name, and the connexion he was known to bear as the favourite pupil of his great master, had of themselves some share in exciting a curiosity which led to information; whilst his perfect acquaintance with the whole scheme enabled him to explain its minutest parts, and elucidate all those obscurities with which, on a superficial view it was thought to be enveloped. I add to this, that the urbanity of his manners, and his readiness to afford every assistance in his power, joined to that clearness and energy with which he effected it, not only brought conviction,

conviction of its excellence in those who were inclined to receive it, but conciliated the minds, and dispelled the prejudices, of many who had been averse to it.

By all these preliminary advances, the learned were prepared to see the *English* botany modelled according to the rules of the *Linnæan* school. Dr. HILL seized the first opportunity of attempting it, in his *Flora Britannica*, 1760 ; but it was executed in a manner so unworthy of his abilities, that his work can have no claim to the merit of having answered the occasion : and thus the credit of the achievement fell to the lot of Mr. *William* HUDSON, F. R. S. who, to an extensive knowledge of *English* plants, acquired by an attention to nature, had, by his residence in the *British Museum*, all the auxiliary resources that could favour his design : access particularly to the *Herbaria* of almost all the assistants of RAY and DILLENIIUS, mentioned in the *Synopsis*, gave him the opportunity of comparing the individual specimens of that work with his own ; and thus enabled him to dispel a multitude of doubts and uncertainties, in which,

which, otherwise, his application of the *synonymia* might have been involved.

The sexual system was received nearly about the same time in the universities of *Britain*; being publicly taught by Mr. Professor MARTYN, at *Cambridge*, and by Dr. HOPE, at *Edinburgh*. The adoption of it by these learned Professors, I consider, therefore, as the æra of the establishment of the *Linneæan* system in *Britain*—a system, which, if I may be allowed the expression, had given the author of it a literary dominion over the vegetable kingdom; which, in the rapidity of its extension, and the strength of its influence, had not perhaps been paralleled in the annals of science.

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